STUDENT RETENTION IN SELECTED OKLAHOMA CAREER AND TECHNOLOGY CENTERS: A CASE STUDY

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Submitted to the Faculty of the
Graduate College of the
Oklahoma State University
in partial fulfillment of
the requirements for
the Degree of
DOCTOR OF EDUCATION
December 2020

STUDENT RETENTION IN SELECTED

OKLAHOMA CAREER AND TECHNOLOGY CENTERS:

A CASE STUDY

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ACKNOWLEDGEMENTS

Finding myself with this opportunity to thank all the people in my life for supporting, encouraging, and inspiring me seems surreal. You dream of this moment for so long, it is almost unbelievable when you finally reach it. I would not be here without some very important people in my life and the grace of our unfailing God.

First, I need to thank my family and the friends who are as close as family. My mother who never doubted my ability to succeed…at anything! My sons, Peyton and Shane who inspired me when I wanted to give up. To another of my biggest supporters, Larry who recognized how important this journey was for me and showed an unwavering level of support, patience, love, and accountability to get me to the end. Debbie and Tammy who were supportive despite all the times I was not available because I was "busy working on my paper". I also must include my "bestie" Sande. We have been through so many challenges through this journey.

Next, I want to thank my dissertation committee and my advisor, Dr. Ed Harris for his guidance and willingness to stick with me. He has the patience of a saint. I am certain I was his test into heaven. Dr. Curry for her kind input, Dr. Self for her immense knowledge of CTE and Dr. Hammer for her willingness to help at the last minute.

Another person who is a huge part of my success, Dr. Jessica Noonan, who spent hours editing and creating a timeline that would push me through before time was up….I couldn't have done it without your help.

I would also like to thank the administration at my school for allowing me time off and my staff for stepping up when I had to balance work and writing a dissertation in a pandemic. There were many special people who held me accountable, who supported me, encouraged me in times of doubt, and prayed for my success. Jeanette, Jane, Susan, and Jana…thank you.

Finally, I need to give glory to God who blessed me with opportunity and sent angels to give me all that I needed to finish the journey.

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Date of Degree: December 2020

Title of Study: STUDENT RETENTION IN SELECTED OKLAHOMA CAREER AND TECHNOLOGY CENTERS: A CASE STUDY

Major Field: SCHOOL ADMINISTRATION

Abstract: This qualitative case study explores student completion rates in two Oklahoma technology centers. Using Douglas' Grid and Group as a theoretical lens, the study explores corporate culture and the student support programs provided to help students successfully complete a vocational program. Findings suggest strong grid and strong group cultures support students persisting to completion in a vocational program.

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INTRODUCTION

The National Center for Education Statistics (NCES) reported that from 1990 to 2011, student dropout rates decreased from 12% to 7% (NCES, 2013). Even though this decline in percentage indicates progress in the dropout rate, the seven percentage points equates to 5,500 students. Research from the National Dropout Prevention Center (NDPC) showed that students leaving high school have an increased chance of incarceration, lower wages over a lifetime, and need for welfare and other forms of public assistance (NDPC, 2013). According to Lynch (2013) and Richmond (2013), the negative consequences of students dropping out harm society by burdening the American taxpayers with the cost of care every day school is in session for the 5,500 students who have dropped out.

Many factors contribute to the reasons why a student may choose to leave school. Research has suggested that absenteeism, low socioeconomic status, race, and academic deficiencies are all risk factors for students dropping out of high school (Lee & Burkam, 2003; Richmond, 2013). Despite these warning signs, some public schools are unable to increase student retention rates, often becoming labeled as ‘dropout factories’ (Richmond, 2013; Weber, 2007).

In 2006, the Oklahoma Department of Career and Technology Education (ODCTE) began a campaign emphasizing the economic impact of the state's career tech system graduates. Billboards across the state declared that three billion dollars were added to the state's economy each year through the graduates and services of Oklahoma CareerTech, which is an extension of the agency's mission "[To] prepare Oklahomans to succeed in the workplace, in education, and in life" and vision of "…securing Oklahoma's future by developing a world-class workforce" (Oklahoma CareerTech, 2014). A skilled workforce that allows graduates to earn a living wage and attract more businesses to the state reduces the need for welfare or other forms of public assistance.

The statewide effort in Oklahoma is reinforced in each of the 29 technology center districts spread throughout 72counties. Each district provides training through a variety of methods that reach middle school, high school, and adult students, business clients, community members, incarcerated adults in skills centers, and industry specific training (ODCTE, 2020).

Allowing students to drop out of high school results in an increased chance of incarceration, increased need for public assistance, and decreased earnings over a lifetime, which creates a crisis for the future of our nation and our children (Lynch, 2013; Richmond, 2013). Research can provide information that will allow opportunities to combat this societal issue and help turn it around. This study seeks to assist in this endeavor by providing qualitative data to be applied in creating strategies for increasing student retention in Oklahoma technology centers. In turn, reducing dropout rates will increase the percentage of students graduating with essential earning potential and have an economic impact on the state (Snead, 2013).

Oklahoma has been recognized as one of the premier career and technical education systems throughout the nation, often winning awards for innovation and excellence. Other states provide career and technical education but offer it in different delivery systems. Some states will provide Career and Technical Education (CTE) through the secondary educational system, often through academies focused on certain career paths or individual classes that include training in automotive, agriculture, or personal services, such as cosmetology. This system usually targets high school students only. In other states, it is embedded in the higher educational system, often located in two-year colleges that focus on adult learning only. Currently, most Oklahoma technology center career and technical education classes train adult students alongside high school students.

Problem Statement

ODCTE began a marketing campaign to demonstrate the impact CareerTech graduates could have on the economy, stating graduates "add more than $2 billion annually to the state's economy" (Oklahoma CareerTech, 2014). However, many opponents began to question the authenticity of the agency's claims. This resulted in an independent study by Oklahoma economist Snead (2013), who released a report that assessed the economic contribution of the Oklahoma CareerTech system. His findings revealed that the earning potential of graduates increased with technology center training. Due to training completion affecting wages and earning potential, technology centers intensified their focus on retention rates. Technology center districts employed a variety of strategies to increase retention rates. Experts were invited in to consult, provide training and strategic planning in areas of recruitment, retention, and instructional effectiveness (Bremer et al., 2013).

The supports provided and strategies implemented by technology centers are designed to improve the chances for successful student completion (Belfanz et al., 2013; Stone, 2014). While providing support to students is designed to improve student completion rates, some technology centers have been successful in accomplishing these goals (Gentry et al., 2007; Talbert, 2012), and others have not (Oklahoma CareerTech, 2017). One possible reason students benefit from support in some instances and not in others, may be due to the role of the technology center culture (Muhammad, 2009) in providing quality support to students (Douglas, 1982).

Purpose of the Study

The purpose of this qualitative case study is to explore, through the lens of Grid and Group Theory, the interrelationship of the culture of select Oklahoma technology centers and the role of culture in providing quality supports that increase student retention rates.

Research Questions

The following research questions pertain to two selected Oklahoma technology centers**:**

1. How are students supported in these settings?
2. What are the teachers' and students' perception of the interrelationship in the culture of the technology centers and student retention rates?
3. Through the lens of Douglas' Grid and Group Theory, what factors of school culture influence successful student completion?
4. Outside of Grid and Group Theory, what else is found in the data?

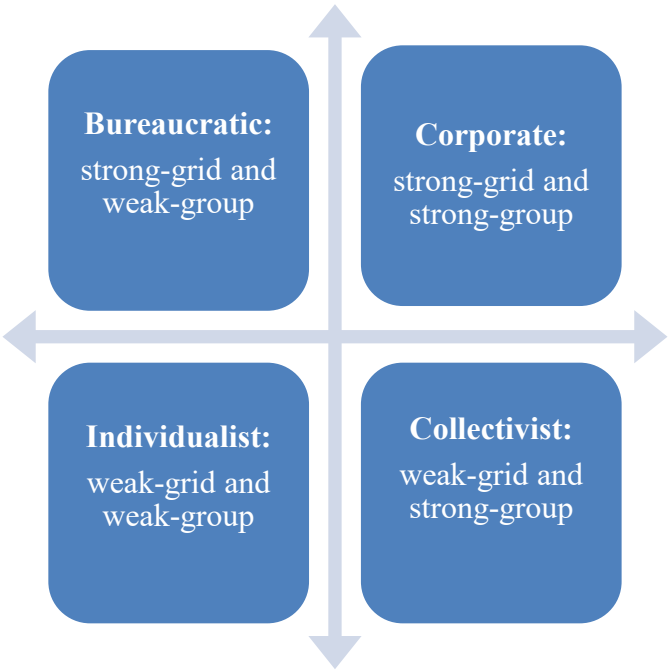
Theoretical Framework

This study utilizes the epistemological perspective of constructivism. The constructivist worldview holds that meaning is generated through the lens of the participants,

allowing information to be discovered in their perceptions and experiences (Creswell, 2009). Crotty (1998) explained, "Truth, or meaning, comes into existence in and out of the engagement with the realities of our world…meaning is not discovered, but constructed… [as] different people construct meaning in different ways" (pp. 8-9). This study explores the perceptions and experiences of students, teachers, and administrators; thus, participants' constructions define the culture of the technology center.

This qualitative case study allows for information and meaning to be constructed through the theoretical lens of Mary Douglas's Grid and Group Theory, also referred as Cultural Theory (1970, 1982, 1986). Grid and group was created as a way to categorize various cultural beliefs and behaviors within organizations, as well as organizational rules. The results are plotted along the matrix of the four quadrants that are created in the process: 1) Individualist (weak –grid and weak-group), 2) Bureaucratic (strong-grid and weak-group), 3) Corporate (strong-grid and strong-group), and 4 Collectivist (weak-grid and strong-group). Below, Figure 1.1 shows the four quadrants. The theory will categorize the data for better understanding and exploration of interrelationships.

Figure 1.1



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Procedures

This case study used purposive sampling of two suburban technology center school districts. Qualitative methods were used, which include: 1) observation; 2) collection of artifacts; and 3) open-ended interviews with students, instructors, and other school personnel such as administrators and student support staff. The data was analyzed and coded for themes, patterns, and outliers. I ensured credibility through triangulation of multiple data sources, peer debriefing, member checking, and reflexive journaling. Participants were protected from the release of any identifying information to ensure confidentiality (Yin, 2014).

Significance of the Study

To Practice

The significance of this study is to provide new information for school leaders to influence school culture as a means for improving student retention in Oklahoma technology center districts (Bremer et al., 2011). This study provides practitioners across the state and nation new information for implementing positive change and increasing student retention (Leithwood, 2007; Muhammad, 2009). By providing new information for those working in the system, it also has the potential economic impact of more graduates in skilled jobs with higher earning capabilities (Snead, 2013).

To Research

A large amount of research has been conducted in the areas of school culture, student achievement, student dropout rates, and student retention rates (Gentry et al., 2007); however, there is limited literature surrounding the Oklahoma CareerTech system, with even less research when considering the additional element of student retention. The findings from this study add to the professional literature by providing rich data that explores the interrelationship of technology center culture, student cultural preferences, and student retention.

To Theory

Many beliefs exist surrounding school and organizational culture. Researchers have focused on the importance of school culture as a means of improving student achievement in secondary and post-secondary institutions (Gentry et al., 2007; Peterson, 2002; Waldron, 2010). The results of this study add to the existing theories by expanding the potential impact

on Oklahoma's unique educational system of CareerTech, which may transfer to other career and technical education systems.

Definition of Terms

School Culture is defined as "shared ideas—assumptions, values, and beliefs that give an organization its identity and standard for expected behaviors" (Tableman & Herron, 2004, p.1). Peterson (2002) offered a similar definition of school culture:

> The set of norms, values and beliefs, rituals and ceremonies, symbols and stories that make up a 'persona' of the school…the culture of a school consists primarily of the underlying norm, values beliefs that teachers and administrators hold about teaching and learning. (p.1)

Student Retention is defined as high school students who persevere and continue until all graduation requirements are met (Simonson, 2010). For the purpose of this study, it will be defined as any student who perseveres through a program of study at an Oklahoma Technology Center.

Inclusion is defined as inviting all learners to participate or engage in the educational setting, regardless of diversity (Ainscow, 2007).

Technology Center Culture is defined as "shared ideas—assumptions, values, and beliefs that give an organization its identity and standard for expected behaviors" (Tableman & Herron, 2004, p.1) within a technology center district.

Cultural Preference is defined as the participants' preference to cultural definitions within Douglas' Grid and Group's four quadrants of Individualist, Bureaucratic, Corporate, and Collectivist (Douglas, 1982, 1986; Harris, 2004).

Grid and Group Theory is defined as a "theoretical frame…that brings order to experience and provides a common language to explain behaviors and interactions in a school setting" (Harris, 2004, p. 34), through which all "cultures can be assessed and classified" (Mamadouh, 1999, p. 396).

Grid is defined as "the degree to which an individual's choices are constrained within a social system by imposed prescriptions such as role expectations, rules, and procedures" (Harris, 2005, p. 34).

Group is defined as "the degree to which people value collective relationships and the extent to which they are committed to the larger social unit" (Harris, 2005, p. 36).

Summary and Organization of the Study

This study is organized into six chapters. The first chapter provided an introduction to the study with an explanation of the problem, the purpose of the study, and four research questions. Mary Douglas' Grid and Group theory has been identified as the theoretical lens in this case study of two Oklahoma suburban technology centers while seeking to better understand the interrelationship of students' cultural preferences, the culture of the technology center and student retention rates.

Chapter II includes a review of the literature that covers the topics of career and technical education in Oklahoma and the United States, its history, and instructional design. Additionally, it covers CTE's purpose and unique application in Oklahoma. The literature review concludes with explanations of potential reasons for why technology center culture is effective sometimes and ineffective other times at retaining students.

Chapter III provides the details for methods and procedures used in this study. It addresses participant selection, data collection, analysis, ethical considerations taken. The chapter concludes with trustworthiness findings and limitations of the study.

Chapter IV provides detailed information about the two selected technology centers and the data collected. This includes information gained from observations, interviews, and artifacts. Chapter V is analysis of the data providing common themes and patterns. Chapter VI completes the study with conclusions as well as a discussion of implications for practice, research, and theory. Lastly, recommendations are provided for further research.

CHAPTER II

LITERATURE REVIEW

When a president is newly elected, the nation becomes even more focused on national and global issues. Media attention is given to areas of education, unemployment, healthcare, national security, and foreign relations. The United States is compared to other countries, both ally and adversary, looking for strengths and weaknesses. This shift has spotlighted the fact that many of America's jobs have been shipped overseas. America is being replaced as a leader in the global arena. Other countries are passing the United States in research, health, and education (Symonds et al., 2011). There is a need to provide a pipeline of a skilled workforce to advance our nation to be a global leader again (Daggett, 2013; Stewart, 1982). Career and Technical Education (CTE) can connect workers with the skills needed for the workforce.

This literature review addresses the topics of (1) history of career and technical education in Oklahoma; (2) retention in technology centers; (3) school culture; and (4) technology center culture. Additionally, the review of literature is intended to address the following objectives: (1) to establish the need to retain students in Oklahoma technology centers; (2) to illustrate the importance of school culture in technology centers; and (3) to provide support for the present study.

Career and Technical Education

Harvard released a report, *Pathways to Prosperity* (2011) that warned of the coming gap in skilled jobs and the demand for skilled workers. It further states, a college degree is no longer necessary to gain successful employment. Dagget (2013) stated, "College is no longer the gateway to all the good jobs that will equip a graduate for lifelong sustainability. Neither is the assumption accurate that more college is better than less college" (p. 1). Career and technical education is another educational option outside of the college route.

History of Career and Technical Education

Reform in education began prior to the late nineteenth century. The president of the Massachusetts Institute of Technology, John Runkle, perceived the Russians to have advanced the United States with an exhibit that brought together academics and vocational education. Runkle, inspired by the Russians, began the first steps to joining what he called the "manual with mental" skills and later became "the seed for the nation's system of vocational education" (Goble, 2004, p. 174).

Vocational education began as a philosophy as early as 1865, but it was not until 1879 when Harvard graduate, Calvin Woodward, first put it into practice. He opened America's first academic and manual training school. These schools later became known as A&M colleges. As the philosophy grew, more A&M schools opened across several states. This led to the opening of Oklahoma's first A&M training school in 1890 in Stillwater. Oklahoma was the only state to offer vocational training before statehood and included vocational training as a constitutional mandate (Goble, 2004; Stewart, 1982).

Vocational education was validated in 1917 when President Woodrow Wilson signed the Smith-Hughes Act that promoted vocational education, agriculture, and trade and industries training (Goble, 2004). The Smith-Hughes Act began the federal funds that enforced the president's belief that the United States needed to prepare individuals to meet the demands of "employment requiring less than a baccalaureate degree" (p. 4). Since that time, Oklahoma has taken a lead in defining vocational education. Many great leaders had a vision to create what has become the CareerTech system of today. People like Francis Tuttle had the foresight to create vocational school districts that were supported by local property taxes. Additionally, as early as 1967, his revolutionary thinking helped establish a single salary scale to be applied to every position across every division in the system (Goble, 2004). This act created equal pay for men and women doing the same work. Over the next 47 years, Oklahoma transformed vocational education into the career technology education system of today.

Purpose of Career and Technical Education

Early on, vocational technology education, commonly referred to as 'vo-tech' was thought to be the only option for students not planning or able to pursue a college degree. This perception led to the mindset that it must be a 'physical versus mental' preparation for post-secondary goals (Gordon, 2008). It was thought to be for those less academically prepared or 'not smart enough' for college; thus, these students were expected to learn a skill that would lead to employment. The assumption became low skill equals low wage; however, it was not necessarily the case (Gordon, 2008). The need for skills-based training for employment created a need to educate citizens of the benefits of vocational

education and the changing of labeling vo-tech to career and technical education (Association of Career and Technical Education, 2015).

CTE has become an integral part of the educational system in many states. This 'hands on' approach allows students to explore career options while learning skills with applied theory and relevance. This approach has students gaining knowledge, job skills, and experience to enter the job market upon completion of a program. Additionally, these students are more likely to graduate from high school than their peers attending non-CTE classes (Treschan & Mehrotra, 2014). The supports provided and strategies implemented by technology centers are designed to improve the chances for successful student completion (Belfanz et al., 2013; Stone, 2014).

CTE Instructional Design

The instructional design of CTE has the ability to support students throughout their education and can, potentially, increase their chance for successful completion of the program. In 2014, the United States Departments of Education, Health and Human Services, and Labor issued a joint letter informing education, community, political and service agency leaders about the importance of students making timely, relevant and informed career decisions. The focus of this letter was to address the need for preparing high school students for college and career readiness. The recommendations included exposure to careers; focusing on career readiness; aligning with academic ability; learning job searching skills; developing partnerships with business and industry; and offering tools for college and career planning (Dann-Messier, Wu, and Greenberg, personal communication, May 30, 2014).

CTE is a natural fit for meeting the needs mentioned. The CTE classroom utilizes collaborative, exploratory, hands-on learning in a real-world lab. The curriculum uses work-based learning and project-based learning to analyze and synthesize theory and skills to learn an occupation. Many CTE programs lead to state and national certifications that advance student employment (Oklahoma Department of Career and Technology Education, 2015).

Learner Centered Instruction

Another strategy implemented by CTE includes a curriculum with a focus on learner-centered instruction. Researchers are continuously looking for ways to improve student achievement. Several studies have focused on culture, leadership, and academic relevance (Daggett, 2013; Penna & Tallerico, 2005; Sundell et al., 2012). According to Penna and Tallerica (2005), many researchers are finding students' strengths lay in creating meaningful educational opportunities. The Association for Career and Technical Education (ACTE) developed a research-based quality framework to describe the key components of a high-quality CTE program of study (ACTE, 2018). CTE teachers across the state strive to implement these 12 key components in their classrooms everyday:

- Standards-aligned and integrated curriculum
- Sequencing and articulation
- Student assessment
- Prepared and effective program staff
- Engaging instruction
- Access and equity
- Facilities, equipment, technology, and materials

- Business and community partnerships
- Student career development
- Career and technical student organizations (CTSOs)
- Work-based learning
- Data and program improvement

The 12 key components align with the American Psychological Association's (APA) fourteen principles that pertain to the learner and the learning process (McCombs, & Miller, 2009). These include six cognitive and metacognitive factors, three motivational and affective factors, two developmental and social factors, and three individual differences factors (APA, 1997). They are discussed further to show the strategic instruction that takes place in a CTE classroom.

Cognitive and Metacognitive Factors

The nature of the learning process is intentional, with the learner constructing meaning based on the learner's own experiences and prior knowledge. Goals of the learning process are intended for the students to create meaningful goals. Construction of knowledge happens by linking prior knowledge with new information and experiences. Strategic thinking promotes self-directed efforts to achieve learning goals which, in turn, promotes critical thinking. Context of learning considers the environment in which learning takes place (American Psychological Association, 1997).

Motivational and Affective Factors

Motivational and emotional influences on learning are determined internally based on students' own feelings of self-expectations, self-efficacy, and learning outcomes. If a student has higher levels of confidence as a learner, the more successful

they will likely be. Intrinsic motivation to learn is determined by a student's level of interest, personal choice, and desire to explore new information. The effects of motivation on effort relies on the student's level of energy towards learning. When the ingredients of curiosity, interest in the topic, and desire to learn are higher, the more success can be expected. These factors become more prominent when the learning is connected to prior experience, interests, and future goals (American Psychological Association, 1997).

Developmental and Social Factors

Developmental influences on learning factors in the developmental stage of the learner, while balancing the other factors of physical, emotional, intellectual ability. Instruction is most effective when considering these areas as part of the learning ability. Social influences on learning include how the learner works with others and the individual's ability to work together, be flexible, and accept differences among the group (American Psychological Association, 1997).

Individual Differences Factors

Individual differences in learning are based on the unique experiences learners face as they grow and develop. This understanding blends their prior knowledge with physical, social, and emotional factors to create their individual learning styles. Learning and diversity considers the larger world of the learner by including cultural, ethnic, and racial beliefs, customs, and differences to avoid bias that can inhibit learning. Standards and assessment seek to set individual learner expectations and checking for understanding and mastery of the objectives American Psychological Association, 1997).

CTE classrooms take into consideration a student's interests and ability and apply real world situations and allow the student to explore, discover, analyze and synthesize information to create lasting knowledge. Students then take that knowledge and apply it to the world of work, often performing in 'live work' situations or doing actual work for real customers. Students are also assessed, and, in many cases, provided with national certifications to validate the learning and knowledge gained (American Psychological Association, 1997).

Work-based Learning

Students are supported in CTEs by being exposed to work-based learning opportunities, which increases their motivation to prepare for an occupation (Gibney, 2015). CTE emphasizes linking occupational curriculum and skills with the workplace. Gibney (2015) referred to this as work-based learning (WBL). He further described that WBL should be intentional and used as a "framework for integrating career preparation into curriculum and an approach to learning that bridges classroom and the workplace" (p. 21). One objective of WBL is to provide students with real world experience that exposes them to a variety of situations in the work environment. This focus is intended to develop soft skills such as getting along with others, problem solving, being on time, work ethics, and leadership development. Several articles cite employers complaining of employees lacking in these areas (Carnevale & Smith, 2013; Daggett, 2013; Gibney, 2015; Gordon, 2008).

Another objective of WBL is gaining experience in skills to increase competency through 'live work' in the workplace. These experiences include internships, apprenticeships, clinical settings, externships, and on-the-job training. Students are

partnered in industry specific areas with supervision of an industry expert, while receiving monitoring and consulting with the CTE instructor (Oklahoma CareerTech, 2014).

Programs of Study

The Carl D. Perkins Act was created as college and career preparation legislation. It provides funding to CTE programs throughout the nation. As such, it requires Programs of Study (POS) as a central component to link secondary education with postsecondary education for the purpose of employment. The National Research Center for Career and Technical Education (NRCCTE) commissioned studies to identify key elements of an effective POS. The research findings concluded that an effective POS would hold students to high standards, provide students an opportunity for concurrent enrollment, and lead to industry-ready credentials (Stipanovic et al., 2012). Additionally, POS should incorporate project-based learning, ensuring student engagement (Stipanovic et al., 2012).

Career and Technical Education in Oklahoma

History

Career and technical education (CTE) in Oklahoma began shortly after the Land Run of 1889, when then Governor George W. Steele approved legislation that established the first "Agricultural and Mechanical College of the Territory of Oklahoma," better known as Oklahoma State University today (Goble, 2004, p. 175). Oklahomans experienced vocational education prior to statehood in 1907.

The arrival of chemistry and physics teacher, John Fields, to Oklahoma's A & M college, helped students to develop and apply the scientific approach to enhance

agricultural growth, opening the doors for recognition of domestic training to become scientific disciplines when taught by trained professionals (Goble, 2004). Agricultural instruction in the public school paved the way for other classes that focused on domestic areas such as cooking and sewing to be included in the curriculum (Goble, 2004). These important steps led to the beginning of the age of vocational education in Oklahoma, later to become known as Career and Technical Education. Fields also pushed for legislation to ensure every school would teach agriculture as a science and a vocation (Goble, 2004; Stewart, 1983).

Modern day career and technical education in Oklahoma was given its foundation with hardworking, persistent, and visionary people such as, J.B. Perky, Arch Alexander, and Francis Tuttle. They are often called the "fathers of Oklahoma Career and Technical Education" (Goble, 2004). They worked with the early legislators as well as educational and political leaders to create a separate department that oversees the entire system of CTE. These leaders developed a funding source that allows for continued strength and growth and prompted Oklahoma to be recognized nationally as a leader in career and technical education (Stewart, 1982; Goble, 2004).

Tuttle had the foresight to create vocational school districts that were supported by local property taxes. Additionally, as early as 1967 his revolutionary thinking helped establish a single salary scale to be applied to every position across every division in the system (Stewart, 1982; Goble, 2004). This act created equal pay for men and women doing the same work. Over the next 50 years, Oklahoma transformed vocational education into the career and technical education system of today (ODCTE, 2020).

Purpose

The Oklahoma Department of Career and Technology Education (ODCTE, 2020) website states, **"**Oklahoma's Career and Technology Education System is focused on developing a world-class workforce. This comprehensive system delivers educational experiences through 395 comprehensive school districts and 29 technology center districts" (ODCTE, 2015, para. 2). Programs offered include practical nursing, surgical technology, dental assisting, welding, automotive service technology, cosmetology, precision machining, biotechnology, pre-engineering, and computer programming (Oklahoma CareerTech, 2019).

Through these sites, over 83,000 students in grades nine through twelve were enrolled in CTE courses during fiscal year 2016. Additionally, Oklahoma career techs serve adult learners, provide customized training for business and industry, provide skills training for incarcerated adults, offer credit recovery for high school students, and offer personal development courses for members of the community (Oklahoma CareerTech, 2015). Each year the ODCTE reports on each tech center's student retention, asking about completion, employment, and continuing education. This report is known as 'follow up' for all CTE instructors. The data received on this report is analyzed for areas of improvement in programs, instructor satisfaction, and program success. The diverse population served by Oklahoma CTE fulfills several important roles, including economic development, employment, industry partnerships, and serving the local community (Stewart, 1982).

Economic Development

Oklahoma CTE supports economic development through business development centers. These centers provide low-cost rent, business management consultation, and tax incentives to startup companies with data-driven, innovative business concepts. These small business owners are able to grow and develop their ideas into profit-based companies before moving on to independent business ownership. Through the professional assistance of the business development centers (BDC), owners are able to access support of business experts in several areas, such as tax law, human resources, basic business plans, management, and learning to compete in the marketplace (ODCTE, 2015).

In addition to providing support for small business ownership, Oklahoma CTE impacts the economy through training skilled workers to enter the workforce. A study done by a local economist revealed completers of CTE programs earn 20% higher wages than those with only a high school diploma (Sneed, 2013).

Employment

Oklahoma career techs provide skills and career training to a diverse population for the purpose of employment. Students learn occupation specific skills to gain employment in their chosen career upon completion. Students are taught theory, skills, real world application, professionalism, and leadership traits. Many occupations require only a certificate of proficiency, and Oklahoma career tech provide individuals with an avenue to achieve a credential in less time than a traditional college degree requires (ODCTE, 2015.

Programs are researched and must adhere to specific requirements to be offered as occupational training. They must meet industry specific demands, pay a minimum wage of $10.50 per hour, and they must not saturate the market with more student completers than jobs available (ODCTE, 2015). Annual reports showing data specific to the success of the programs are posted the ODCTE website for public review. These 'follow up' reports track if the student is working one year after finishing the program, how much is the student making, and if the job related to the training he received. Success of a program is determined, in part, on the annual follow up reports. Schools are penalized if they do not report on a minimum of 99% or higher of the students enrolled in a program for 60 clock hours or more (Oklahoma CareerTech, 2015).

Industry Partnerships

CTE in Oklahoma works to increase and improve industry partnerships. A partnership is created between a local business and the program that trains for that occupation. The partnership includes collaboration, internships, employment of students, and various sponsorships for student-related events. Each occupational program instructor is required to have an advisory committee made up of industry stakeholders that include local businesses, other educational institutions, parents, students, and technology center staff (ODCTE, 2015).

Community

Oklahoma career techs work with their community in partnership to provide personal development course offerings, meeting space, employment, economic planning and development, and philanthropic ventures. Many career techs also function as community centers for the small towns in which they reside. They may offer to hold the

local prom, church meetings, and civic events. Superintendents are often in leadership positions throughout the community and provide avenues to return service back to the community whenever possible (ODCTE, 2015).

Challenges for CTE Student Completion

While providing support to students is designed to improve student completion rates, some technology centers have been successful in accomplishing these goals (Gentry, Peters, & Mann, 2007; Talbert, 2012), and others have not (Oklahoma Technology Center Profiles, 2017). According to the ODCTE's *FY16 Fast Facts*, more than 500,000 enrollments were served in occupational programs, industry training, adult and career development, and incarcerated youth and adults programs. With such a diverse population and large numbers of people served, Oklahoma career techs are challenged to provide completion rates. In 2017, the completion rate for the state, as a whole, was 86%; however, in breaking this number down by each technology center district, the completion rate in long-term occupational programs ranged from 73% to 93% (Oklahoma Technology Center Profiles, 2017). In comparison, the 2014-2015 traditional completion/graduation rate for Oklahoma was 83%. This mirrored the national completion/graduation rate, which was also 83% (National Center for Educational Statistics, 2017). So, why do some technology centers have a better retention rate than others?

Retention in Oklahoma Technology Centers

Gentry et al. (2007) conducted a study of student perceptions of career and technical education as compared to the traditional high school experience. Students confirmed their interest in attending the CTE setting was stronger than the traditional

high school setting. The study concluded students were more likely to be successfully engaged with caring teachers who taught lessons that allowed for occupational interests and student autonomy, thus, resulting in increased retention rates in school (Gentry et al., 2007).

ODCTE provides technology center profiles on their website that shows the percentage of completers and students leaving for other options that include college, military, and employment (ODCTE, 2017). Each of the 29 technology center districts is represented. Each shows their individual percentage along with the state average (Oklahoma CareerTech, 2015). Perusing the profiles emphasizes some technology centers are more successful with higher rates of completers and lower rates of students leaving for other options. There are few resources to provide an explanation or theory about why some schools have higher percentage rates for completion and retention.

Of the 29 Oklahoma Technology Center Districts, only a handful are located in a town of more than 50,000 people.

Most districts in the state are considered to be in rural areas. Each of these districts, regardless of whether it is rural, urban, or suburban, face challenges with student retention. In 2016, the president of the Association for Career and Technical Education, Doug Meyer, wrote about the challenges rural CTE districts face. Factors such as transportation, funding, technology, and teacher shortages affect student success. These challenges are addressed differently based on the resources of the community and help to provide an explanation of how some districts have success over other districts (ACTE, 2016).

Rural districts are forced to find new ways to attract and engage students after the Oklahoma State Department of Education has added new requirements over the past several years. This results in students being held more accountable for academic credits, end of instruction assessment mastery, and the addition of financial literacy (OSDE, 2017). Some rural technology centers have added academic courses for graduation credit purposes to assist students in meeting graduation requirements. Technology centers have also added flexible scheduling and transportation to attract students (Oklahoma CareerTech, 2015).

After perusing all 29 Oklahoma technology center district websites, it appears many have similar offerings in the areas of academic courses, transportation, and scheduling. Yet, some districts have higher retention rates than others (Oklahoma CareerTech, 2015). This inequity in rates merits further review; however, there are few sources of literature that address Oklahoma retention rates.

National CTE Retention

A study of New York City's CTE efforts by the Community Service Society in 2013 found an increase in graduation rates for students attending a CTE school. It was discovered that an even greater increase in graduation rates was found among black and Latino males who attended CTE schools (Treschan & Mehrotra, 2014). Further supporting this claim, the National Association of State Directors of Career and Technical Education Consortium (NASDCTEC) published a fact sheet on CTE and student achievement, and one fact stated, "Students enrolled in CTE are increasingly high performers, with higher than average graduation rates" (NASDCTEC, 2017, para. 2).

According to the National Dropout Prevention Center (NDPC), dropouts are more likely to engage in 'at-risk' behaviors such as drug use, violence, and breaking the law (NDPC, 2016). CTE provides solutions to keep students in school. The Association for Career and Technical Education published an issue sheet on CTE's role in dropout prevention, espousing that success is due to higher student engagement, real world relevance, and positive connections with peers and adults (ACTE, 2016). One possible reason students benefit from this type of support in some instances and not in others, may be due to the role of the technology center culture (Muhammad, 2009) in providing quality support to students (Douglas, 1982).

Culture

Upon walking into any school building, the 'feel' of the school is immediately evident. Some schools are warm and inviting, while others appear cold, daunting, or even confusing. In 2004, Michigan State University issued a brief, *School Climate and Learning,* in which Tableman and Herron wrote, "School climate reflects the physical and psychological aspects of the school" (p. 2). This sense of the school's 'personality' becomes apparent by the individuals walking the halls, from students and teachers to administrators and custodians. Every person contributes to the overall school climate. However, if one were to stay and become a part of the school staff, one would begin to see a larger, deeper view of the school. One would begin to see the "shared ideas—assumptions, values, and beliefs that give an organization its identity and standard for expected behaviors" (Tableman & Herron, 2004, p.1), also known as the school's culture.

Schein (2010) described an organizational culture model as "a social order with rules that determine how we speak, perceive our environment, feel, and act within the

cultural environment" (p. 3). He identifies three layers of culture that are the foundation. They are artifacts and symbols, espoused values, and assumptions. These layers range from those that are obvious to the outsider to the unseen or invisible. Artifacts and symbols are those most obvious; in contrast, assumptions are less noticeable.

Muhammand (2009) stated, "Recent research has been helpful in exposing the significant power school culture wields in the functioning of schools" (p. 14). He further explained, "When a school has a healthy culture, the professionals within it will seek the tools that they need to accomplish their goal of universal student achievement" (p. 16). School climate and culture are the foundation on which teaching and learning take place (Tableman & Herron, 2004). Naturally, when schools are not performing at expected levels, one would begin to search for possible reasons and ways to improve. Macneil et al. (2009) described the difference between "healthy versus unhealthy" schools and how the two different environments can affect student achievement, teacher efficacy, and job satisfaction (p. 75). The authors also contended that unhealthy schools do not value high academic achievement, and teacher job dissatisfaction is high (Macneil et al., 2009).

One characteristic that helps build a positive culture, such as those referred to in previously cited research, is collaboration. A school with a high level of collaboration is one in which leadership is distributed, goals are developed and decisions are made with input from stakeholders, and leaders are transparent with data (Dufour et al., 2009; Waldron & McLeskey, 2010). Cultures that are collaborative tend to have higher student achievement, higher teacher self-efficacy, and a higher degree of personal responsibility for achievement (Campo, 1993; Gruenert, 2005; Kohm & Nance, 2009). Fullan (2001)

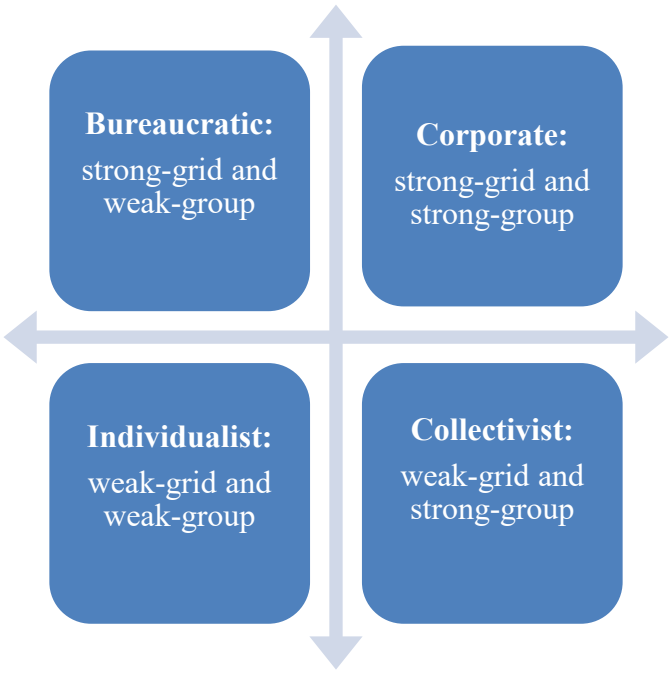
asserted that “the single factor common to every successful change initiative is that *relationships* improve” (p. 5).

Grid and Group

There are several ways to assess culture; however, the framework used in this study is Douglas’ Grid and Group (1982, 1986). Anthropologist Mary Douglas began developing her theory in the early 1970s to classify all culture through a two-dimensional typology known as grid and group. This was later referred to as cultural theory (Douglas 1982, 1986, 1996). Douglas discussed her early work in *Natural Symbols* (1970) as a “simple model of the distribution of values” (p. 2). She further defined group as a “general boundary around community” and grid as “regulation” (Douglas, 2006, p. 2).

Douglas (1982) provided the framework in which every culture may be categorized. Her use of the four types of organizational culture allows for commonalities to be collected, analyzed and distributed along two axes. Harris (2005) summarized, “Grid refers to the degree to which individuals are constrained by role differentiation, rules, and expectations…group represents the degree to which people value collective relationships and the extent to which they are committed to the larger social unit” (p.36). Grid and group breaks down the separation into four prototypes: (1) bureaucratic: weak group, strong grid, (2) corporate: strong group, strong grid, (3) individualist: weak group, weak grid, and (4) collectivist: strong group, weak grid (Douglas, 1982; Harris, 2005).

Figure 2.1. Four Quadrants of Grid and Group



Bureaucratic

A bureaucratic organizational climate purports weak group and strong grid. This translates into a very strong hierarchical type of organization with little thought to individuals. The culture will emphasize the organization, roles and responsibilities, and compliance of the rules. There is no sense of autonomy or individual control of the larger organization (Douglas, 1982; Harris, 2005). Individuals do not have freedom due to the high levels of rules, regulations and expectations. Government agencies are often referred to as bureaucratic cultures. These organizations strongly enforce the rules and do not allow for individual decision-making. The individual performs work with the mindset of 'just doing what I'm told' (Douglas, 2006).

Corporate

A corporate culture shows a strong group and strong grid. The corporate environment promotes group strength and strong rules. The roles of the individuals are

clearly outlined with an organizational emphasis, rather than an emphasis on the individual. The emphasis is on both internal and external expectations (Douglas, 1982; Mamadouh, 1999; Melton, 2003). The military is an example of corporate culture. It clearly outlines what is expected of every position within the military and a strong commitment by the individual to the military. Every person has a role, and that role supports the overall mission of the organization.

Individualist

Individualist cultures will show a weak group and weak grid. As the name implies, the individualist culture will allow individuals within an organization to have a strong sense of self and be self-driven. The individualist environment will promote competition among members and reward individual effort. There is a pervasiveness of individual autonomy with little regard to organizational rules (Harris, 2005; Mamadouh, 1999). Sports, such as tennis or golf, promote an individualist culture. There is no larger group for the individual to align; everything is self-driven. The emphasis is on the individual effort and rewarded, as such.

Collectivist

Collectivist culture produces a weak grid, strong group with individuals having influence in decision-making but only as it supports the organization. In the collectivist culture, the group works for the 'greater good of the group' (Mamadouh, 1999; Harris, 2005). Individuals have positions in the hierarchy, but the organizational leader has final decision-making power (Douglas, 1982; Harris, 2005; Mamadouh, 1999).

Melton (2003) explained the collectivist culture to have a "fear of outsiders infiltrating the group," and individuals within an organization may work extensively to keep this from happening (p. 126). The collectivist wants to preserve the group as it is, without altering the 'purity' by the outsider. He provided the example of people within the Islamic faith becoming suicide bombers to destroy those they perceive to be "intruders" (p. 122). Other such examples include organizations based on tradition, such as a prestigious men's club that has only allowed membership based on a set of criteria that is unchanged for decades. The members do not want 'outsiders,' such as women, to join and alter the tradition. They perpetuate a collectivist view of the club.

Grid and Group in Education

Harris (2005) identified three approaches to understanding school culture as (1) holistic, (2) symbolic, and (3) dualistic. These approaches take a different perspective in identifying and clarifying school culture. The holistic approach looks at a comprehensive view while the symbolic approach serves to focus on symbols such as stories, heroes, heroines, myths, rituals, and special language, as a means of understanding organizational behavior (Deal & Kennedy, 1982). Lastly, the dualistic approach comprises of individual beliefs and their actions, In some cases, they may align, while in others, they do not.

With many definitions and approaches to understanding school culture, it is important to find a simpler way of classifying individual behaviors, language and interactions. Douglas' grid and group provides a "matrix to classify school contexts and draw specific observations about individuals' values, beliefs, and behaviors" (Harris, 2005, p. 33).

Application to CTE

Grid and Group is being used for the purpose of this study to discover cultural preferences and explore the relationships that exist between these preferences and the retention of students in Oklahoma technology centers. The benefits of this theory include the ability to capture individuals' preferred behaviors and beliefs and plot them along the two axes based on their preferences to boundaries and regulations. The simplicity of the grid and group survey, common terminology, and application to school setting make it a natural fit for an Oklahoma CTE (Harris, 2005; Mamadouh, 1999). Harris (2005) emphasized the importance of educational leaders knowing the different social games within the school because this allows for "identifying roles and relationships, how they are structured, and interpreting how and why school members engage in various activities" (p. 40). This assertion can assist technology center leaders to affect the culture within the school by understanding behaviors, cultural preferences, and their potential influence on student retention.

Summary

Each year thousands of students drop out of high school, in spite of federal and state initiatives to lower the dropout rate (Lynch, 2013; Richmond, 2013); however, students completing career programs of study are finding more success than their non-CTE peers (Treschan & Mehrotra, 2014). Research supports CTE having a positive impact on student achievement. However, there is little research on student completion in CTE programs, more specifically, in Oklahoma CTE programs. This study sought to

apply Douglas' Grid and Group theory to explore relationships, if any exist, between students completing CTE programs and technology center culture.

CHAPTER III

METHODOLOGY

"Not everything that can be counted counts and not everything that counts can be counted."-William Bruce Cameron (as cited in Cullis, 2017, p. 505)

Albert Einstein is often mistakenly credited for the previous statement, when in fact the quote is attributed to renowned sociologist William Bruce Cameron. But what does this statement really mean? I interpret this quote to be a great way of explaining that qualitative research gives meaning to the things that cannot be quantified or that require deeper explanation than mere numbers can capture. Patton (2002) stated, "Doctors who look only at test results, and don't also listen to their patients, are making judgements with inadequate knowledge. Qualitative methods facilitate study of issues in depth and detail" (p. 14). Yin (2014) further explained, "The need for case study research arises out of the desire to understand complex social phenomena" (p. 4). It is with this intention, that I have chosen the qualitative case study as the guiding methodology for this study of technology center culture and student retention.

Research Design

Yin (2014), through his definition of case study research design, explained:

Case study is an empirical inquiry that investigates a contemporary phenomenon

> in-depth and within real-world context, [has] many variables of interest, multiple sources of evidence, and the prior development of theoretical propositions guide data collection and analysis. Case study research comprises an all-encompassing method—covering the logic of design, data collection techniques, and specific approaches to data analysis. (pp. 16-17)

Capturing the phenomenon of school culture within the technology center requires the unique advantage that case study research provides. One must be in the field to understand, in context, the conditions of the participants. The case study most often takes the constructivist worldview by determining meaning through the lens of the participants, allowing information to be discovered through their perceptions and experiences (Creswell, 2009; Yin, 2014). Crotty (1998) explained, "Truth, or meaning, comes into existence in and out of the engagement with the realities of our world…meaning is not discovered, but constructed…[as] different people construct meaning in different ways" (pp. 8-9).

This qualitative case study allows for information and meaning to be constructed through the perceptions of participants. This meaning is explained through the theoretical lens of Mary Douglas's Grid and Group (1982, 1986) as it falls along the continuum of the four quadrants that are created in the process: Individualist (weak –grid and weak-group), Bureaucratic (strong-grid and weak-group), Corporate (strong-grid and strong-group), and Collectivist (weak-grid and strong-group) (Harris, 2004; Mamadouh, 1999). The theory categorizes the data for better understanding and exploration for interrelationships.

Methodological Procedures

Participant Selection

Purposeful sampling of two Oklahoma technology centers was employed for this case study. Since student retention is a key construct in this inquiry, the two technology centers were selected based on their having markedly disparate student retention rates. Four students and four teachers were chosen from each technology center through purposeful sampling after the spring semester in the 2018-2019 school year. Below, Table 3.1 outlines sampling criteria used.

Table 3.1

Participant Selection Criteria

Participant Group	Sample Size (n)	Selection Criteria	Rationale
Teachers	8 (4 per center)	• have taught at least two years at the center	• experience at center has shaped perspective on school culture
Students	8 (4 per center)	• attending 2nd year of an occupational program of training	• experience of center culture shaped desire to complete

Data Collection

I collected data in the technology center through a grid and group survey (Douglas, 1982), interviews, documents, direct observation, participant observation, physical artifacts, and archival records (Yin, 2014). As Creswell (2002) noted, "researchers typically gather multiple forms of data…rather than rely on a single data source" (p. 175). Additional artifacts were used to strengthen the study beyond my personal contributions of writing and interpreting the data.

Observations

Observational data was collected, as I visited the selected sites over a four-month period. These observations took place throughout the campus as students and staff tended to their daily activities. I sought a variety of situations to capture a more complete picture of the technology center culture. As explained by Patton (2002), researchers must spend time within the natural setting of the participants to view a full range of activities and interactions. Therefore, I scheduled many observations at varied times in order to view as many of the natural happenings in a typical day at the technology center.

Interviews

Yin (2014) posited that the interview is the most important source of evidence in a case study. Explaining that the interviewer has two objectives to meet in the interview. First, Yin (2014) suggested that the researcher ask questions that follow in line with the case study protocol. Second, he suggested, "ask your actual question in an unbiased manner that also serves the line of inquiry" (p. 110). According to Patton (2002), the interview is intended to provide "direct quotations from people about their experiences, opinions, feelings, and knowledge" (p. 4). The interviews have provided rich description for this case study.

Knowing the importance of capturing data through interviews, I did face-to-face interviews with four students and four teachers during the spring semester of the 2018-2019 school year. Interviews were done one-on-one and audio taped for accurate collection of information. I employed purposeful sampling of four second-year students in occupational classes. The questions asked were open-ended and intended to provoke detailed answers. Interviews were transcribed immediately for accuracy.

Documents

Data collection through documents included marketing materials disseminated, electronic communication with staff members, each site's internal and external website, and documents outlining the district's mission, goals, and values. It was important not to overlook district marketing videos, social media usage, and photographs. I looked at all forms of information that would help describe the culture of the school and explain shared thoughts, beliefs, and values of the organization. I was also mindful of collecting documents that allowed me to compare similarities and differences among the culture and the respective retention rates of the two centers. For example, I looked for any messages, informal or formal, related to student retention.

Data Analysis

Yin (2014) stated, "Data analysis consists of examining, categorizing tabulating, testing, or otherwise recombining evidence, to produce empirically based findings" (p. 132). Patton (2002) posited that data analysis is critical for creating the setting for the reader and "must have depth and detail" (p. 24). I ensured my notes "become the eyes, ears, and perceptual senses of the reader" (p. 24). I ensured information is without error and thorough in description. Through the process of analyzing multiple sources of data, patterns, themes, and hypotheses emerge to support or disclaim the study (Creswell, 2009; Patton, 2002; Yin, 2014). Creswell (2009) suggested that after organizing and reading data, analysis takes place in the following steps: code data, generate themes, convey findings, and interpret meanings.

Code Data

Patton (2002) stated, "without classification there is chaos and confusion" (p.463). Coding data provides a method to sort information, discover patterns, and

categorize likenesses. Further, Patton espoused, coding is necessary to "make sense out of the raw data" (p. 463). Creswell (2009) explained coding as labeling and categorizing based on information from the participants, often using their own language, known as "in vivo term" (p. 186). The coding in this study will evolve as the research is gathered, analyzed, and categorized based on common topics. Creswell (2009), Patton (2002), and Yin (2014) each offered suggestions for using coding, but I chose to use Creswell's suggestion of using a combination of predetermined codes and those that emerged from the data.

Generate Themes and Categories

Patton (2002) suggested that large amounts of raw data must be collected and closely perused to find emerging themes. Further, Patton suggested one must look for "recurring regularities." Patterns became evident and were used to divide into two criteria: internal homogeneity and external heterogeneity. These two criteria allowed for information that belongs together or is quite obviously different (p. 465). After I coded the data, themes emerged and I was able to categorize the data based on similarities and differences.

Convey Findings and Interpret Meanings

Patton (2002) explained, "Qualitative interpretation begins with elucidating meanings" (p. 477). I reviewed the data collected in observations, interviews, surveys, and artifacts to determine meaning. I sought to answer if there was a relationship between school culture and student retention at two selected Oklahoma technology centers. I looked for credibility, transferability, dependability, and confirmability (Trochim, 2006).

I provided supporting information in tables, charts, graphs, and other depictions of the data.

Researcher Role

Researcher Bias

"We must look at the lens through we see the world, as well as the world we see, and that the lens itself shapes how we interpret the world." -Stephen R. Covey

Covey's quote, in my interpretation, captures what happens in qualitative research. I viewed data through the lens of my experience, but in knowing that, I was better prepared to avoid letting my personal biases influence my findings. I sought to go beyond my own experiences and allow the case study to expose the information that is formed from the experiences of the individuals in the study. Yin (2014) stated, avoiding biases means "being sensitive to contrary evidence" (p. 73) and open to adapting your procedures, if necessary.

It is also important to note I had experience working in another technology center district. This familiarity could have created a bias that was essential to guard against. Additionally, I had some familiarity with the leadership in the chosen sites. That put me in a unique position to better understand the participants within the school, insinuations they made, and references they made to individuals impacting the culture and achievement. Thus, I had to be cautious to avoid making inferences that were not proven or specifically stated. Yin (2014) referred to this as "capturing the meaning intended by the interviewee" (p. 74).

Ethical Considerations

Ethical considerations were central to the design of this study. The next two sections outline ethical practices used in both data collection and data analysis.

Data Collection Ethics

Ethical considerations were taken to avoid deception, prevent harm, and protect volunteer participants. Participants were provided signed consent forms that fully disclosed any risk. To protect the confidentiality of participants and ensure no identifying information was made available, all data collected was coded to assigned participant pseudonyms. The use of coding and pseudonyms helped to ensure no harm would come to anyone as a result of participating in the study (Yin, 2014). I sought approval through the Institutional Review Board to ensure I met the ethical standards necessary for working with human participants in this case study.

Data analysis ethics. Creswell (2009) stated data analysis "is making sense out of text and image data" (p. 183). Information emerged as it was collected. It required continuous perusal, reflection, and interpretation. Creswell further urged using a six-step approach that minimizes bias in the findings and allows for the essence of the data to emerge. The six steps include: 1. Organize and prepare data; 2. Read through all the data; 3. Code the data; 4. Themes and Description Emerge; 5. Interrelate themes and description; and 6. Interpreting the meaning of the themes and descriptions. I used these steps to allow the data to emerge fully. I also ensured all data was included in analysis so as to eliminate bias and to ensure reported findings were truly representative of the data (Creswell, 2009).

Trustworthiness of Findings

Lincoln and Guba (1985) asserted trustworthiness in qualitative research can be established through credibility, transferability, dependability, and confirmability. I used the trustworthiness criteria presented below in Table 3.2 to assure the legitimacy of the steps taken in this study.

Table 3.2

Trustworthiness Criteria and Examples

Credibility		
Criteria/Technique	*Result*	*Examples*
Prolonged engagement	Builds relationships Rises above own preconceptions Context is appreciated and understood	In the field from September 2018 to April 2019; follow-up communication occurred in May and September; avenues of communication: emails, face-to-face, and phone calls
Persistent observation	Provides depth Most relevant elements and characteristics	Observation of participants during class, meetings, breaks; observation of culture during each visit
Triangulation	Provide consistency Well developed	Multiple sources of data: interviews, observations, documents, websites, and email
Peer debriefing	Check for bias	Gathered feedback; discussed with other students during the writing of the dissertation
Member checking	Check for accuracy Volunteer additional information	The participants received copies of the transcripts to verify accuracy, especially about the conclusions drawn from the study, and provide any important missing information and/or to schedule a follow-up meeting

Purposive sampling	Site selection will provide opportunity to observe student support systems and technology center culture	Selection was based on retention numbers provided by ODCTE in 2015

Transferability

Criteria/Technique	*Result*	*Examples*
Referential adequacy	Check for validity	Collected data from district websites, documents, and school communication pieces
Thick description	In-depth detail to check for possibility of transferability to other populations	History of student supports, programs, experience of participants and overall observations of the school culture

Dependability/conformability

Criteria/Technique	*Result*	*Examples*
Access to an audit trail	Allow auditor to determine trustworthiness of study	Interview questions, notes, documents, email exchanges between participants are available

Triangulation of Data

Data was analyzed and triangulated by collecting multiple sources of data, as recommended by Yin (2014). He suggested evidence should come from the following six sources: documents, archival records, interviews, direct observations, participant-observation, and physical artifacts. These various sources were used, further strengthening the construct validity in this case study.

Limitations of Study

Limitations to this study include its small sample size, participant selection, and challenges associated with researching in a highly familiar context. This study's sample size is limited to eight students who are in the second year of a two-year career program and eight teachers with two or more years of teaching at the technology center. This

sample size may not reflect all the perspectives of individuals working/studying in the technology center. Further, other stakeholder groups, such as support personnel or community partners, were not included in the sample. Additionally, selecting participants was challenging due to being restricted by campus administrators as to which teachers I could interview. Another limitation is that because of my long history of working in technology education in Oklahoma, participants may have been somewhat guarded in their responses to my questions. Finally, because this case study is context bound, findings must be interpreted in relation to their unique context. Qualitative research does not let itself to generalizations; therefore, one cannot apply this study's findings to all populations of Oklahoma technology center districts.

Summary

Chapter Three presented my research design. Procedures for case and participant selection were included. Data collection and analysis procedures were presented. Additionally, strategies for minimizing my personal bias in collecting and analyzing data were discussed. Every precaution was used to de-identify participants and keep all data confidential so that no harm would come to anyone as I explored interrelationships in technology center culture, student cultural preferences, and student retention. In the following chapter, Chapter Four, data is presented.

CHAPTER IV

PRESENTATION OF DATA

The purpose of this qualitative case study is to explore, through the lens of Grid and Group Theory, the interrelationship of the culture of select Oklahoma technology centers and the role of culture in providing quality supports that increase student retention rates. In Oklahoma technology centers, retention rates are referred to as technology center completion rates or student graduation rates. This chapter focuses on presenting data collected from two selected Oklahoma technology centers. To place these two technology centers into perspective of the state vocational system, it is important to understand how career and technical education operates in Oklahoma. The chapter begins with a broad perspective of the statewide system by providing the history behind Oklahoma's vocational training and how it has evolved into the current, complex system of training today. The larger picture of the statewide system will narrow to focus on the two selected technology centers and provide a picture of their individual cultures, as told through the lens of the students and staff interviewed.

Career and Technical Education in Oklahoma

This section presents background information on career and technical education in Oklahoma. First, a historical overview is given, followed by a description of the population served. Finally, a summary of career and technical education's economic impact at the state level is offered.

History of CareerTech

Oklahoma's entrance into vocational education began in 1917 when federal dollars became available through the Smith-Hughes Act, which was passed by President Woodrow Wilson (Goble, 2004). By 1941, the position of State Director of Vocational Education was established and housed in Stillwater, Oklahoma. James Barney Perky was named the state's first vocational education director. The early years of vocational education were aimed at serving high school students as they learned about vocational agriculture and home economics. It also provided skill development for adult learning. Early vocational education focused on creating farmers, homemakers, plumbers, nurses, and some tradesmen.

President Kennedy created the National Education Improvement Act of 1963, which challenged the status quo of vocational education to provide training that served all people. Those that had been overlooked in the past were now at the forefront to receive training. The law intended to help "the poor, the isolated, the uneducated, and the physically and mentally infirm" (Goble, 2004, p. 103). There was a demand for new programs that would provide for jobs of the future. Programs that were allowed to continue had to show they prepared high school students and adults for careers beyond farming and homemaking.

This new challenge meant Oklahoma needed a new champion of vocational education. Francis Tuttle was brought on by Perky to engage superintendents across the state, bringing compliance for the new requirements among the high schools and colleges. The mission was to combine resources and create "area schools" that offered the

new, high demand training. Tuttle took on the role as "head of the area schools division" (Goble, 2004, p. 106). A few short years later, in 1967, Tuttle took the reins from Perky as the State Director for Vocational Education in Oklahoma. He "reinvented almost everything about the state's vocational education—its mission, its organization, its governance, its funding, everything, even its name" (Learning to Earn, 2004, p. 119).

In 1968, Oklahoma's vocational education took a new leap towards a stronger, more strategically focused institution in providing education and training to build a highly skilled workforce. Formally leaving the state department of education, the formation of the State Board of Vocational and Technical Education provided an independent board, oversight, and vision for education and training. This new nine-member board included the state superintendent of instruction, along with eight other members, including the State Director of Vocational Education. They had a mission to provide education and training to secondary and post-secondary students around the state. Tuttle took this opportunity to bring a former colleague, Arch Alexander, on board and charged him with a mission for visiting other states that had demonstrated success. Arch Alexander took his new position and purpose to heart. He visited other states but was truly impressed with the success South Carolina was having. Soon after, Oklahoma was leading the way in new diversified program offerings. Oklahoma had already chartered the waters with the initial building of the first area school in Bartlesville today known as Tri County Technology Center. These independent centers were intended to focus only on skilled training and education. They took combined resources to serve larger geographical populations (Stewart, 1982; Goble, 2004).

Alexander's vision went beyond basic skills training, creating programs for fast-track training for business and adult education, and a focus on human resource development. In a few short years, vocational education was expanded into the State Department of Corrections, providing education to inmates at various correctional facilities across the state.

Each new state director brought new ideas, new energy, and new opportunities. Oklahoma's vocational system continued to grow and reach more of the state's citizens, expanding the needs of the communities it served. By 2000, a need for rebranding vocational education became the focus. Oklahoma's vocational system was no longer the 'vo-tech' of the past. Leaders felt it was time to bring awareness to the vast programs and services provided. This brought a state-wide campaign to change the perception. Governor Frank Keating, signed the law that changed the agency name to the Oklahoma Department of Career and Technology Education, and each independent vocational school district changed their name to fit accordingly, adding technology center to their name (Stewart, 1982; Goble, 2004). Today's Oklahoma CareerTech system was born.

Population Served

At the time of this writing, the Oklahoma CareerTech system had 29 technology center districts with 58 campuses that served the communities in 72 counties across the state of Oklahoma. The complex system also included programs taught at nearly 400 comprehensive high school districts and 16 skills centers. There were 32 adult basic education providers at 111 sites. Together, these institutions provided industry-specific training, high school and adult training, job placement, adult and career development, and community service. Oklahoma's secondary enrollments began as soon as sixth grade with

early exposure in STEM careers. According to the fiscal year 2019 annual report, CareerTech had provided enrollment for 43% of the state's ninth through twelfth grade students (ODCTE, 2020). All high school student offerings were free to the students and were paid through local ad valorem dollars. Many high school students attending their local career tech graduated from high school with no debt, a certification leading to a well-paying job, and the opportunity to continue their education and training, if they chose (Goble, 2004).

Goals and Economic Impact

Oklahoma's CareerTech system was guided by the vision and mission of "securing Oklahoma's future by developing a world-class workforce" and to "prepare Oklahomans to succeed in the workplace, in education and life" respectively. The goals that supported this vision and mission included educational attainment, career awareness, business/educational partnerships, and agency operations (ODCTE, 2020). Sneed (2013) estimated that Oklahoma's CareerTech System graduates brought more than $3 billion annually to the state's income. This economic impact, along with the savings of industry training, partnering with business, and the services provided to incarcerated adults and teens, was a valuable contribution to the state of Oklahoma. The state agency provided a multitude of services across the system with an annual budget of approximately $159 million (ODCTE, 2020).

Adams Technology Center

As one piece of the larger puzzle that made up Oklahoma's CareerTech system, Adams Technology Center provided training for more than 500 high school and adult students with a staff of 100 full and part-time employees. The technology center offered

long-term occupational training and certifications in 21 full-time career programs. According to the center's website, their mission stated, "[Adams Technology Center] provides quality education and training services to secure the future of [Oklahoma]." Their vision was to "be recognized as a model of excellence in career and technology education" by having values of "competence, accountability, innovation, service, listening and collaboration, employee involvement, and leadership." A letter from the technology center superintendent, listed in their online annual report, stated, "We love to empower people with relevant, marketable knowledge" (Adams Technology Center website, 2019).

Adams Technology Center operated on a budget of approximately $14 million, which came from a variety of sources, but mostly from local taxes. Additional funding came from state and federal dollars allocated from the state agency, based on a set of criteria. There was also some revenue collected through private pay, agency, and business sponsored training of tuition and related expenses (ODCTE, 2020).

The district provided a "report to taxpayers" with information on how funds were spent, how the technology center supported the community through students trained, and businesses served. The district boasted an economic impact of nearly 20 million dollars for fiscal year 2018, with 94% of their occupational program completers placed in the military, employment, or higher education (Adams Technology Center website, 2019).

Community Description

Adams Technology Center was located in a large, rural community with a population of nearly 25,000 residents. The population was comprised of 73% Caucasian, 11% African American, 9% Native American, approximately 1% Asian, and 4%

Hispanic or Latino. The median income for the area was approximately $28, 000 (US Census Bureau, 2020). The community was home to a few large businesses that provide jobs in the manufacturing, oil and gas, distribution, and education sectors. Adams Technology Center was an integral partner in the community, employing more than 100 full and part-time teachers and staff. It served students from 17 partner school districts in the surrounding area. According to their annual report to taxpayers, Adams Technology Center contributed nearly $20 million back into the community, with over 380 jobs supported. Additionally, more than 180 businesses had received some type of customized, industry training. They also had 100% full-time program certification opportunity with 94% student completers, also known as technology center graduates (Adams Technology Center website, 2019).

Physical Description

Adams Technology Center was located in a rural area east of town. It sat on over 50 acres of land, providing for growth and expansion of services and programs. During the data collection phase of this study, it had ongoing construction for remodeling and updating to a building that originally opened in 1966. The campus consisted of several small buildings with one large main building that housed administrative offices, a cafeteria and commons area, security office, and a few occupational programs. Each of the smaller buildings housed an occupational career program that ranged from health related to automotive to manufacturing. The technology center served seventeen rural comprehensive school districts and partnered with business and industry to provide customized occupational training and support.

The campus was designed for accessibility, navigation of buildings, and safety. The central entrance was designed to welcome visitors, while maintaining safety. All exterior doors were kept locked with the exception of the main entrance. Students and staff had pre-programmed identification cards that granted access to the buildings. Each room had further enhanced safety protocols with numbered keypads that were accessed through a preset code or with the student or staff ID. Security was a strong focus in the hallways. There was also a security guard on duty who patrolled the hallways and parking lots. Driving lanes were created for easy flow between buildings and navigating the large campus. The back section of the campus had a large field that allowed student hands-on training on heavy equipment. There was also an area used for motorcycle safety training.

Participant Profiles

Profiles of participants interviewed are described in this section. I interviewed four students and four teachers/staff members. Two teachers, John and Susie, had worked at Adams Technology Center for more than ten years. Other staff members, Larry and Barbara, worked there for more than twenty years. The students were young adults in their second year of a career program. Two students, Sam and Terry, came from technical careers programs and two students, Ella and Denise were enrolled in health careers programs. The programs represented by the students interviewed included automotive service, health sciences, medical assisting, and electrical. Students represented both male and female genders and were aged 18 and over. Table 4.1 is provided below and offers a biographical summary of each interview participant.

Table 4.1

Adams Technology Center Participant Profiles

Name	Role	Biographical Description
John	teacher	John had more than 10 years of teaching in a technical career program. John came from an industry-related career with more than fifteen years of experience. John had two young, adult children.
Susie	teacher	Susie had taught 15 years in the health-related career. She taught high school students only. She brought nine years industry experience to her position. Susie had one teenage child at home.
Larry	teacher	Larry worked eight years in a technical career. He had spent time as an evening adjunct teacher before taking a full-time instructional position with Adams Technology Center. He taught for 22 years. He had two grown children.
Barbara	teacher	Barbara came to Adams Technology Center with 13 years of experience working in a health-related career. She said her "love for the profession" brought her to Adams to teach where she had spent 21 years teaching the health-related career program. Barbara had three grown children.
Sam	student	Sam was in his second year of a technical program that focused on vocational training in electrical occupations. He was 19 years old and a recent graduate of a local high school.
Terry	student	Terry was an 18-year-old student enrolled in an automotive service careers program. He was in his second year of occupational training. He was a senior in a local high school.
Ella	student	Ella was exploring health occupations through a health sciences program designed for high school students. She was an 18-year-old high school senior enrolled in a local high school. Ella was in her second year of attending Adams Technology Center.
Denise	student	Denise was in a health occupation program that focused on training students for work in a medical office. She was a 19-year-old senior from a local high school. Denise was in her second year at Adams Technology Center.

Climate: Farm to Table in a Familial Atmosphere

At the main entrance, the receptionist greeted guests with a friendly smile and immediately helped direct everyone to their destination. Staff were welcoming and students were friendly, greeting me as I walked the hallway to the main student common area. Breakfast and lunch were provided in a welcoming area with cafeteria style tables set up. There was also a seating area for the students. I saw several students talking with friends or working on homework. There were televisions providing news and weather updates. The student commons area also provided vending, an ATM machine, pamphlets on the military, jobs, as well as other educational opportunities and training One student explained, “It feels like college to me, but more hands-on learning and no partying to mess it up” (Ella, interview, 2019).

The area had a “farm to table” salad bar from a local Amish family farm. The staff ate lunch at a table near the students. They talked and laughed. They were friendly, offering part of their lunch to me, as a visitor to their campus. The superintendent also ate with the staff. He was very engaged in their conversation. The room had a welcoming atmosphere.

The entryway contained a trophy case to house numerous technology center achievements and awards. The district was named a top workplace over multiple years. The technology center website listed awards and achievements that included the Oklahoma Quality Achievement of Excellence Award and was certified as a healthy business in Oklahoma.

Leadership: A Culture of Continuous Learning

The leadership of Adams Technology Center consisted of a superintendent, a deputy superintendent, program directors, and teacher leaders. The teacher leaders were identified to be part of a team that facilitated two-way communication between the staff and administration. The technology center also provided leadership positions that support instruction and business training. For the purpose of this study, I focused on gathering data related to the interaction styles of the leadership positions mainly responsible for teachers and students.

The superintendent, Mr. Anderson, was personable and friendly. After an initial tour of the campus, he offered his own identification keycard for my use. He provided maps, points of interest, and a history of the technology center. He had vast experience in the Oklahoma career and technical education system after being employed for more than 25 years at Adams Technology Center. He had worked in a variety of positions within the district. He provided a lively discussion on the state of career and technical education at the local, state, and national levels.

Mr. Anderson expressed he was proud of his staff for their "willingness to help students be successful" and they "showed a genuine concern" for the students' well-being. He stated the teachers "embraced a culture of continuous improvement" that allowed for open conversations with him. Teacher participants also emphasized how the school culture led to their professional growth. For example, one teacher stated,

> I came to Adams Technology Center over twenty-three years ago. I was given a lot of opportunity to grow as a professional in that time. I think they embrace a

> culture of continuous improvement. I enjoy seeing the students succeed, get jobs, and become a productive member in our community. It is the most rewarding part, when you see the training that changes the life of a student and their family. (Barbara, interview, 2019)

Mr. Anderson gave credit to his teachers for the "great things that happened at Adams Technology Center." The staff described Mr. Anderson as "approachable," "willing to listen," and "visionary." Students described him as "friendly" and "easy to talk to."

The program directors likened themselves to principals at a high school. They provided guidance for teachers and staff. They were responsible for career program budgets, teacher evaluations, and student discipline. They were the first link in the chain of command in administration. Teachers described their respective program directors as "trustworthy," "open minded," and "encouraging." Students mentioned their "principal was fun, but strict," and he "made me follow the rules, but also had fun at school" (student interviews, 2019).

One teacher expressed how much she appreciated the leadership at Adams because she was often asked to "give input" on various district related topics. She further shared that the administration team had selected "teacher leaders" for the purpose of "communicating and disseminating information" (Susie, interview, 2019).

Career Programs: Pathway to a Living Wage

The Adams Technology Center website showed occupational training in a diverse set of 21 career programs for adult and high school students. The training focused on for

this study is considered “long term” instruction, defined by one program director as “a class with daily instruction each weekday for more than one academic semester.” According to the district’s website, most career programs required a student attend for one academic year or more.

Each program teacher talked about how their program aligned with industry standards and met criteria set by the Oklahoma Department of Career and Technical Education, the Oklahoma State Department of Education, and any other organization that had oversight of the career program. Barbara, a health-related career program teacher, explained her program adhered to additional oversight by the respective accrediting organization. She stated the additional oversight required “annual reporting, a program self-study, and an accreditation site visit.” The program kept the accreditation status from “three to ten years, depending on the program’s accrediting body’s outcome based on the accreditation site visit” (Barbara, interview, 2019). She proudly expressed she had made it to a ten-year accreditation status, explaining she would not go through the site visit for ten years from the last visit.

Mr. Anderson explained the career programs offered at Adams Technology Center were determined by industry demand and the ability to offer a living wage. He defined a living wage as “making $11.00 an hour or more.” The 21 programs offered included occupational training in the following career pathways: architecture and construction; business management and administration; health science; manufacturing; arts, video technology and communications; human services; information technology; science, technology, engineering, and mathematics; information technology; and, finally, transportation, distribution, and logistics. Students took a career program that often led to

other occupations within the pathway. One student said, “I chose to come to the Adams Technology Center because I didn’t want to go to college. [Attending Adams Tech Center] was a faster way to get the job I wanted” (Sam, interview, 2019). The career programs had the dual capability of preparing students for a certification that allowed them to enter the workforce or continue their education for another related occupation.

Adams Technology Center used a recruitment strategy to get “the right students in the right program for the right reasons” (Mr. Anderson, observation, 2019). He claimed a student’s internal motivation was part of their success. He discussed how his work with an outside consultant created this as part of their enrollment objective.

Teachers: Providing Hands-on Training and Forming Strong Student Relationships

The teachers at Adams Technology Center were subject matter experts in their respective program of teaching. Each teacher worked in his or her respective industry and brought “real world” knowledge, providing more relevant training to students. One student highlighted how this real world, experiential approach to learning was his motivator for attending: “I had come to the tech tours when I was a tenth grader and really liked what they did. I saw kids working on cars and that looked like fun” (Sam, interview, 2019). A teacher also noted the importance of this aspect of the school: “I believe the hands-on curriculum is also a way that students can be successful. The self-paced curriculum gives them autonomy over their learning. The programs are designed to help students be successful” (Larry, interview, 2019).

Each teacher worked with an advisory committee of community members from the respective industry, former students, parents, and the program director. The advisory

committee had been utilized in the career tech system as an integral part of maintaining industry standards, the latest technology, and trends for the career program. Members provided input and guidance on the latest needs of the industry. The teachers aligned this input with curriculum and technology, ensuring the best trained students had the professional skills required to meet industry demands. This was recognized by students as they mentioned the teachers were "knowledgeable", "will help me get a job", and "care about me as a student". One student expressed,

> I like Adams Technology Center because they treat you like a professional. They focus on work things, like being an adult. They expect you to be on time, dressed for work, and ready to do your job, which is classwork. My teacher is friendly, fun, and smart. She knows just what to do in any situation. She helps all of her students anytime they need it. (Ella, interview, 2019)

The teachers interviewed were asked why they came to Adams Technology Center and what they liked about working there. The teachers unanimously described a love for teaching, working at Adams Technology Center, and helping students. For example, one teacher stated, "I have worked for Adams [Technology Center] for almost 16 years. I love it here! I loved what I did in industry and wanted to teach. This was a great way to combine my love of what I do with the love of teaching" (Susie, interview, 2019). Another veteran teacher at Adams explained his perspective on teaching at Adams:

> I started out as a student and took the opportunity to work in the evenings as an adjunct instructor. When the opening for a full-time position became available, I

> jumped on it. So, I have been here about 25 years. It's a great place to work. The teachers are given autonomy over the structure of the classroom and the content. I feel like I am trusted as an expert. I believe we help students in multiple ways. We connect with them, keep them engaged, and direct them to resources, when they need it. Adams Technology Center provides career training, a career coach, personal finance training [as part of the curriculum] and tutoring with certified teachers, when needed. (Larry, interview, 2019).

The comments reinforced the vision and mission of the technology center. The message was being lived in the teachers and staff that I observed and interviewed.

Student Support Programs

Adams Technology Center served approximately 600 students in their long-term programs. Students attended from one of 17 rural high schools or as an adult student from the community. Most of the career programs had both high school and adult students attending class at the same time. Students worked side by side, in groups, and individually, as the curriculum and teacher allowed. They attended classes part-time or full-time. Their option determined the speed with which they completed a program.

Student success was evident in the student support programs offered at Adams Technology Center. These programs offered support through student tutoring, financial assistance, job placement, and food assistance programs. Students were asked about what they liked about Adams and why they stayed. Terry said he was able to get help for his program at Adams and for his classes at the high school. Ella shared that she took

advantage of the academic center's tutoring program and visited the counselor about personal issues.

Every student who was interviewed discussed some form of assistance available to students. One student, Sam, a young man in a technical career program, said he had spent time with his teacher every day for a week working on a specific skill until he understood it. Another student said she received help from the tutors and the counselor. Teachers provided time outside of class to work with students with their academic needs and to mentor them, which they viewed as necessary for student success. I observed a teacher working with a student during lunch to ensure she understood how a piece of equipment should be safely operated. Additionally, teachers mentioned student support in each of the interviews, as well. One teacher shared that he offered time every day before and after school to assist students in need. He said he always had one or two who needed the extra attention. Teachers recognized that many students needed additional support to continue in the program. Three teachers mentioned student services that were available, such as career advisement, counseling, and financial aid. Students also noted the extra support they received. For example, one student commented, "The teachers are knowledgeable and help you do well in class. Teachers will also help you outside of class time, like during lunch or after class ends" (Ella, interview, 2019). Another student said,

> The school has a lot of people who help you, if you need it. They have counselors and other people that help with problems. I like the security guy, too. He talks to us and helps us with different things. It feels pretty safe here. (Terry, interview, 2019)

Overall, the message of student success was present in all the interviews, regardless of whether it was a student or staff member. Support for students was not only evident in how teachers and students described their interactions, but also in structures created to bolster student success, which included student organizations, the academic center, counseling services, and job placement. Each of these are described in more detail in the following sections.

Student Organizations

Each career program provided membership into their respective student organization. These student organizations are known as CTSOs, which stands for CareerTech Student Organizations. According to the student handbook, SkillsUSA, Business Professionals of America (BPA), HOSA (Future Health Professionals), National Technical Honor Society, and the Student Society of Manufacturing Engineers (SME) had a mission to prepare its members to become "world-class workers, leaders, and responsible citizens" and promote "skill and leadership development" (p. 15). One student mentioned how much he enjoyed the friendships and networking opportunities he gained from being a member of SkillsUSA.

Academic Center

Adams Technology Center provided academic assistance through their Academic Enhancement Center. Teachers certified in math by the Oklahoma State Department of Education work one-on-one with students needing help with math remediation. They worked with career program teachers to identify students in need. The purpose was to ensure greater success in the career program. One student commented she sought math

help while learning about medication dosages. She said she "wasn't very good at fractions and decimals" (Denise, interview, 2019).

Counseling Services

A counselor was available to students by appointment or drop-in, for any issue ranging from school schedules to personal issues. The counselor said she worked with students daily, advising them with career, personal, and academic situations. She was also a liaison with the surrounding high schools. She worked with the high schools to assist students with recruitment and retention at Adams Technology Center.

Job Placement

Job placement was listed in the student handbook as a "cooperative effort of the student, the faculty (teachers), and the administration." It was not a guarantee, but teachers and administrators said students were usually offered a job during their time in a program, whether it was an internship or clinical experience. One student said her teacher had a "high placement rate from clinical experiences" and expected to have a job by the time she graduated from the program.

Baker Technology Center

Baker Technology Center was another one of the 29 Oklahoma technology center districts. **"**When compared to other technology centers, Baker Technology Center is considered smaller," as stated by one teacher. She based this on the smaller student population served. Baker Technology Center served approximately 650 high school and adult students in16 full-time career programs. Baker had a larger high school student

population with an enrollment of 74% and only 26% enrollment of adult students (ODCTE, 2017). Baker Technology Center opened its doors in 1982 to serve the surrounding community.

Community Description

Baker Technology Center was located several minutes from a larger metropolitan area. The district was comprised of citizens from diverse economic backgrounds. The center, located mostly in a residential area, had homes that ranged from old, dilapidated, structures to huge, expensive, homes with well-manicured lawns in gated communities. The US Census Bureau estimated the 2019 city population at a little less than 13,000 with 6% in poverty, in spite of the median household income listed at more than $75,000 and over 93% of the adult citizens having graduated from high school. This small community had a distinct change in the older neighborhoods that were a "stone's throw" from the newer, larger, affluent homes that surrounded the area. According to the annual report for FY'17, Baker Technology Center operated on a budget of nearly $9 million with 83% of the funds coming from local property taxes. It also reported a retention rate of 72% for high school and adult students (ODCTE, 2017).

Physical Description

Baker Technology Center was located on eighty acres with only part of the land developed for the technology center's operations. There was room for growth. It had two gated entrances that were opened only during business operating hours. The campus was small but had a well-maintained exterior. There was plenty of parking for students, staff, and guests. It had a large main building where high school and adult students attended

occupational programs, with three smaller buildings on the campus. The main building appeared newer, in spite of it being more than 30 years old. One of the smaller buildings was for business development and conferencing. It was a newer addition to the campus and was separate from the main building. It had its own parking area to keep visitors separate from staff and students.

The main entrance had an office for visitors to 'check in' for security purposes. The staff was polite and asked my purpose for being there. The area was clean and provided seating for waiting. It had very clean, updated facilities. The hallways were wide with open areas for students to congregate during their breaks. Many programs had windows for viewing the activities within. The latest technology was visible throughout the campus. The classrooms had been decorated in muted tones, but added pictures, and in some cases, murals for "energy", as stated by one administrator.

There was a separate area for eating with nearby vending machines for students to purchase items during their breaks. There were no eating establishments close by, but I observed some students brought lunch to eat before class began. Teachers had a separate eating area available to them during their breaks. Their area included workspace for copiers and teacher mailboxes.

The classroom doors did not show any additional security features; however, the outside perimeter doors did require student identification badges to enter. There was a sheriff's deputy patrolling the parking lots for any suspicious activity. I observed him stopping a visitor for approval to enter. I also observed him speaking to students during a short break.

The buildings were well maintained. The exterior matched consistently throughout the campus, despite additional construction over the years. The campus was small but had room to grow. It sat on 80 acres of land in a residential area east of a larger city. There were four comprehensive school districts that the technology center served. It also provided customized training and support for area businesses, as well as meeting space.

There was an onsite childcare center and an adult daycare center. These services were available for anyone from the community. There was a set of criteria used for acceptance. One student discussed her experience with the adult daycare center as, "really cool to volunteer my time with people with special needs. I think it's great that the school provides this service to the community and I get to come here for my class to volunteer" (Shawna, interview, 2019).

Participant Profiles

Interviewed participant profiles are provided in this section to further detail the participants at Baker Technology Center. There are four teachers and four students listed. Two teachers, Bill and Joe had less than ten years of experience in teaching. Two teachers, Crystal and Nancy had taught for more than fifteen years at Baker Technology Center. The students were in their second year of their program. One student, Shane was in a STEM program. Two students, Keisha and Shawna, were in a health-related career program. The fourth student, Darel, was in a video technology career program. All students were over eighteen years of age. Table 4.2 is presented below and offers a biographical summary of each participant.

Table 4.2

Baker Technology Center Participant Profiles

Name	Role	Biographical description
Bill	teacher	Bill had twelve years of industry experience and five years of teaching at Baker Technology Center. He taught in a technical-related career. Bill had three children.
Joe	teacher	Joe was in his second year of teaching at Baker Technology Center. He came with 15 years of industry experience in the information technology career program. He had two children.
Crystal	teacher	Crystal had taught 26 years in a health-related career program. She brought ten years of industry related experience to the classroom. Crystal did not have any children.
Nancy	teacher	Nancy taught 17 years and had 11 years of experience working in the health-related field. She had one grown daughter.
Shane	student	Shane was an 18-year-old senior enrolled in his second year at Baker Technology Center in a pre-engineering program.
Keisha	student	Keisha was enrolled in a health science class that prepared for working in a health occupations industry. She was an 18-year-old senior from a local high school. She was attending her second year at Baker Technology Center.
Shawna	student	Shawna was enrolled in a health science class and attending her second year at Baker Technology Center. She was 19 years old.
Darel	student	Darel was a 19-year-old senior attending Baker Technology Center for a second year. He was enrolled in a digital media program.

Climate: Schoolwide Commitment to Students and Staff

Baker Technology Center's student handbook promoted their dedication to student success. The first page began with their mission of "empowering individuals, employers, and communities to achieve success," their vision of "excellence through

education," and their core values of "service, professionalism, and recognition." They further expanded to the "4 Rs," which included, "*R*eady to learn, *R*esponsible, *R*espectful, and *R*eady to work" (p. 5). One instructor stated, "Baker [Technology Center] was a great place to work because of their schoolwide commitment to students and staff" and the administration was "very supportive to teachers" (Crystal, interview, 2019). Joe indicated the support of a "newer teacher" was "a pleasant surprise." He added that the leadership provided "lots of professional development to help us grow as teachers" (Joe, interview, 2019).

Baker Technology Center posted their student handbook on their website. The handbook was 34 pages of information with most of it related to rules and regulations of the district. It gave very specific information on teacher roles, student expectations, and district requirements. It clearly outlined the rules and roles of the organization.

Leadership: Tough and Disciplined

The administration at Baker Technology Center consisted of a superintendent, an assistant superintendent, business manager and administrators for instruction, operations, business and industry services, student services, and marketing communications. The overall operations of the district included other support personnel, but the focus for this paper was on the administration that handled the career programs, teachers, and students.

The superintendent, Mr. Benson, was a long-time member of the career tech system in Oklahoma. He had spent more than fifteen years as the superintendent of Baker. He had experience in areas of instructional leadership and operations. He was polite while he answered my questions and allowed me to tour the campus. As a large

man in stature, his presence demanded attention, but teachers described him as, "approachable" and "willing to listen" (teacher interviews, 2019). Students stated he was, "tough", "stern looking", and "sometimes scary, but usually nice". Mr. Benson described himself as, "disciplined", "intentional", and "old-school when it came to running a school" (student interviews, 2019). He further asserted that "schools should stick to their roots while teaching kids". He contended "today's career tech has gotten away from skills and jobs. They only want to prepare 'em for college" (Mr. Benson, observation, 2019).

Two teachers reported the leadership was viewed as "rule bound" and "strict." They went on to state it is a "top down" leadership, but they noted teachers could "walk into [the superintendent's] office with concerns" (teacher interviews, 2019). Bill claimed working at Baker was "not any different than my old job. You just do what you're told to do and everything is good" (teacher interview, 2019).

Career Programs: Few Options

Baker Technology Center offered sixteen full-time career programs to high school and adult students. These programs offered fell into ten different pathways. They included architecture and construction; arts, audio/video technology and communications; business management and administration and finance; human services, health science, information technology; law, public safety, corrections and security; manufacturing; science, technology, engineering, and mathematics; and transportation, distribution, and logistics. Nineteen teachers, along with two program assistants were responsible for training high school and adults in the 16 career programs.

There appeared to be many pathways leading to several careers, but one student said it was "not enough." He said he wanted to "do hair for a living" (Darel, interview, 2019), but there were no programs that trained for that. Another student said she wanted to be a teacher and "had to pick" early care and education, even though she wanted to teach high school students. She chose a health-related career instead, reporting that it would "get her more prepared to work with older kids" (Keisha, interview, 2019).

Baker Technology Center used a student recruitment strategy that focused on career exploration and targeted students as early as elementary school. They had staff who worked with the local comprehensive school districts, providing other options during students' sophomore year with the Explore program and other recruitment activities during visits to area middle and high schools.

Teachers: Experts in Industry

There were 19 career program teachers at Baker Technology Center. Their tenure at Baker ranged from two years to 26 years. They showed a great pride for the work they did as they were interviewed. They spoke highly of the time they had been at Baker. Crystal talked about leaving her former job to come to Baker: "it has been a gift to work with students of all ages" and "I never dreamed I could be this fulfilled working with young people while teaching them the skills to get started on their career" (Crystal, interview, 2019). Nancy reported she had placed more than 90% of her students in a job after they left her program.

Each career program teacher came from an area of expertise in industry. According to the administrator of instruction, they continued their education to become

licensed by the Oklahoma State Department of Education and the Oklahoma Department of Career and Technical Education as a teacher. The teachers were required to continue their education through professional development each year. He went on to state that they must earn 15 hours of continuing education each year.

Students: Engaged in Learning.

Nearly 600 high school and adult students were enrolled in career programs at Baker Technology Center. These students were able to come to the tech center to gain certifications and entry into many career paths. Baker was similar to Adams in student population but differed in size of campus and offered fewer program options. Students interviewed were in their second year of their career program. They were selected as participants in order to gain understanding of their desire to persist in a program to graduation. The students came from a variety of socioeconomic backgrounds and ethnicities. The students interviewed were female and male from various career programs.

The students expressed an overall pride and love for the technology center. Darel said he applied to the technology center his junior year in high school but was not accepted. He said it was very competitive with four high schools sending students to the technology center. He was "so stoked" he got into his preferred occupational program his senior year. He was going to get a certification that would allow him to go to work as soon as he graduated from high school and the technology center. He knew he would make more money than his friends who had "gone to work at McDonald's" (Darel, interview, 2019). Shane mentioned the extra knowledge he gained from attending the

Explore program as a sophomore. It allowed him to “try out” different programs before applying to his favorite one.

Student Support Programs

Baker Technology Center was heavily attended by high school juniors and seniors from four local comprehensive districts. Most of the 18 career programs offered were for high school students only, but a few allowed both high school and adult students to work together in the same program. Students were able to choose between a morning or afternoon sessions that lasted approximately 2.5 hours, with a 20-minute break. Adult students were offered the option to attend both morning and afternoon sessions as full-time students. This allowed an adult student to complete a career program faster. High school students did not have the full-time option.

High school students were given elective credit for being concurrently enrolled with their high school and the technology center. The student handbook provided directions on getting enrolled in a career program by contacting their high school counselor. A high school sophomore enrolled in the career exploration program attended approximately one hour, depending on which high school they attended. Times varied by high school.

Baker was committed to student success through the variety of programs they offered. One of the free services to students included bus transportation to and from each high school they served in their district. Additionally, Baker provided several programs that supported students in the areas of career exploration, employability skills, leadership development, and academic remediation to name just a few. All students were

encouraged to participate in these programs, but some students' plans of study required their participation. Students and teachers alike mentioned these programs contributed to the success of students. Shane attributed his selection for a career program due to his time spent in the career exploration program. Nancy asserted the student support programs were an "essential to student success at Baker" (interview, 2019).

Leadership, Employability, Academics, and Problem Solving (LEAP)

LEAP is listed in the student handbook as a program that works "alongside various career majors to enhance the college and career readiness of students" (p. 16). The program teaches students skills that help with employability that includes interview skills, wage negotiating, communication, and financial planning. One student, Shawna, said it gave her, "skills to get a job, get a raise, and become an independent working adult" (interview, 2019).

Explore

Explore was listed in the student handbook as a class offered to high school sophomores for the purpose of exploring up to five different career programs that students could later enroll in as a junior. There is an initial introduction to career and college planning, career interest assessments, and general safety. The times of the explore classes varied by the high school from which a student attended. According to one student, this 60-90-minute class allowed students the opportunity to "try out" the career programs before enrolling. He went on to say, "it was a fun way to see what I liked" (Shane, interview, 2019).

Student Organizations

Each career program had a CareerTech student organization (CTSO) that students became members. CTSOs simulated joining professional organizations in the workplace and provided competitions that showcased skills learned in the career programs. The programs were part of one of the following CTSOs: HOSA (Future Health Professionals), SkillsUSA, Technology Student Association (TSA), Family Career and Community Leaders of America (FCCLA), and Business Professionals of America (BPA). The student organizations developed leadership skills, professional employment skills, and student networking across local, state, and national stages.

Students were encouraged to participate in the student organizations associated with their career program. Teachers helped students prepare for student competitions at local, state, and national events that showcased their skills and abilities. Bill expressed his excitement "in helping students sharpen their skills in preparation for a competition" (teacher interview, 2019).

Another student organization offered at Baker Technology Center was National Technical Honor Society (NTHS). The handbook described the student organization was based on academic ability, good attendance, and teacher recommendations for "outstanding career tech students" (p. 12). Despite this being an exclusive program of highly accomplished students, Shane, Shawna, and Darel were on track to become members based on their self-reporting during the interviews.

Academic Center

Baker Technology Center provides an academic center focused on assisting students with academic deficiencies in the areas of "reading, language, and basic math" (student handbook, p. 13). Students enjoyed the opportunity for "extra help" as stated by one student. He said he would not have "survived high school English," (Shane, interview, 2019) if it were not for the help he received from tutors in the academic center. Teachers also praised the individualized instruction provided in the academic center. Crystal stated, "I always send my seniors there for help with their senior papers. Those kids come back feeling so much better about tackling such a big project" (student interview, 2019).

Counseling Services

Counseling services are listed in the student handbook as "career preparation, career guidance, and enrollment," as well as "career planning, life skills, personal development and problem-solving and professional enhancement" (p. 14). During my observation, the counselor said she sees students daily for a variety of reasons. She stated they mostly had issues around academics and staying in school. She provided them resources and assisted them with getting help when needed.

Job Placement

Job placement is not a formal program at Baker Technology Center. Teachers said they help students gain jobs through their clinicals and internships. One teacher, Crystal said she has a high percentage rate of job placement. Joe, another teacher, said he worked closely with his advisory committee to help students find jobs. Two students said they

received “job openings” from their teacher with a recommendation that helped them. The technology center also lists job openings available for students on their school website.

Financial Aid

Baker Technology Center offered federal financial aid through the federal Pell grant program. This aid allowed adult students to attend the technology center through grants that paid the tuition. The Pell grant was awarded to students who met specific criteria set by the federal government. Baker Technology Center did not participate in any student loan programs.

Additional financial assistance was available to students experiencing emergency needs. The students applied for small scholarships provided by the Baker Technology Center Foundation. This foundation began in 1995 to help students in need. Money was raised and provided scholarships for tuition assistance, certification costs, or other employment expenses. One student mentioned receiving financial “help” when she had a “family crisis” (Crystal, interview, 2019).

Plans of Study

Every student was required to be on an individualized plan of study. Each student worked with a teacher on setting career goals. The plan of study was maintained during the time the student was enrolled in the technology center. Students and teachers met a minimum of two times per year to update. Teachers guided students on coursework needed to meet the career goals and provided resources, as needed. Teachers often referred students to other staff to get additional assistance.

Summary

This chapter described and compared two selected technology center districts. Through the student and staff interviews, observations, school websites, and document reviews, it was clear they had more in common than not. Adams Technology Center and Baker Technology Center offered similar career programs and services to students. Chapter five provides an analysis of the data to describe potential relationships between the cultures of the schools and their respective retention rates, also known as graduation rates.

CHAPTER V

ANALYSIS OF DATA

A variety of sources were used to collect data, including observations, interviews, documents, artifacts, and district websites. The data presented in chapter four were used for the analysis in this chapter. The purpose of the study is to show the relationship between technology center culture and how it supports student retention rates at two selected Oklahoma technology centers. The analysis of the data below was done through the lens of Cultural Theory (Douglas, 1982, 1986) and by applying the grid and group matrix. The themes that emerged are presented in this chapter.

Cultural Theory

According to Harris (2015), "To comprehend a school's interconnected roles, rules, and relationships requires a framework that considers and explains the pressures and dynamics of culture" (p. 37). As discussed in chapter two, Douglas' Cultural theory is based on a two-dimensional system known as grid and group (1982, 1986). Douglas (2006) summarized her theory as a "simple model of the distribution on values" and explained group was a "general boundary around community," while grid was "regulation" (p. 2). These boundaries were used to reflect the "individual's values, beliefs, and behaviors" (Harris, 2015, p. 37). Below, Table 2 outlines major leadership

criteria defined by the grid and group framework. This framework was used to identify the cultural preference for Adams and Baker Technology Centers.

Table 5.1

Grid and Group Leadership Criteria

Leadership Functions	***Bureaucratic***	***Individualist***	***Corporate***	***Collectivist***
	(strong grid/weak group)	(weak grid/weak group)	(strong grid/strong group)	(weak grid/strong group)
Adaptive Behavior	Directive leadership	Delegating leadership	Coaching leadership	Supporting leadership
Source of Power	Positional leadership power	Personal leadership power	Positional leadership power	Personal leadership power
Leadership Control	Principal actively involved in oversight	Principal minimizes involvement in oversight	Principal focused on group and teacher needs	Teachers control day-to-day process
Decision Making	Situationally negotiated	Centralized	Centralized	Consensus

Adapted from "How Schools Succeed: Context, Culture, and Strategic Leadership" by E. Harris. Copyright 2015 by Rowan and Littlefield.

Adams Technology Center: Corporate Culture

The Grid and Group Assessment Tool (Harris, 2015) was given to staff at Adams Technology Center. Figure 2, below, illustrates Adams' corporate culture. This was further reinforced in the observation of teachers, staff, and students. There was a clear

understanding of roles and responsibilities, but the overall message repeated by several of the staff was “we are a team at Adams Technology Center.”

Figure 2

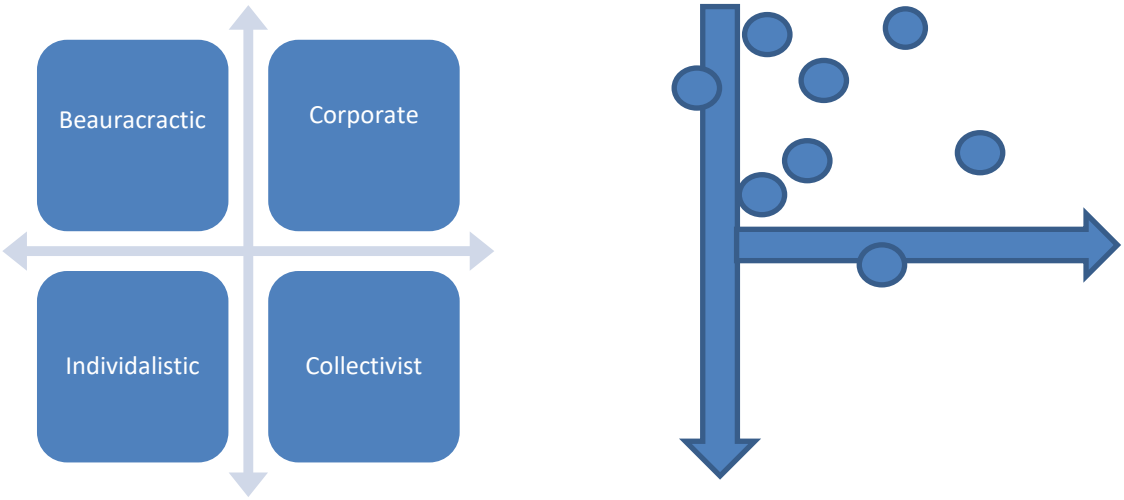


Figure 5.1. On the left, the four quadrants of the grid and group matrix are depicted. On the right, individual grid and group assessment scores are plotted on the matrix, demonstrating that Adams Technology Center participants perceive Adams to have a corporate culture.

Manifestations of Corporate Culture at Adams Technology Center

Adams Technology Center had a corporate culture, which could be demonstrated through staff behaviors, leadership styles, and staff/student relationships. These cultural manifestations are presented in the following sections.

Leadership Role: Coach

Roles were well defined within the hierarchy of Adams Technology Center. Each position is stated, and each has a set of “duties,” explained Mr. Anderson; however, he “preferred to grow his staff” into leadership positions or other professional opportunities.

He explained that the focus on professional development at Adams was to support all staff in their future aspirations. Adams Technology Center offered a program to reimburse college expenses towards pursuing degrees that would advance staff members. Larry shared that he was currently finishing up year one of a post-graduate degree. He credited the encouragement of administration in advancing his education. This style supported the "coaching leadership" style, as illustrated above in Table 2.

Team Oriented

Adams Technology Center was divided into departments based on similar careers or career pathways. For example, there was a department that included health-related programs, a department that included technical-related careers, and information technology-related careers. Each division had a director, who was the administrator or team leader for that division. Additionally, teachers were utilized as leaders among their peers. These leadership positions were often based on length of tenure at Adams, industry experience, and natural leadership skills. These teacher leaders were expected to be liaisons between administration and instructional staff.

I both observed and gathered from interviews with staff members that Adams Technology Center staff is "like a team" and they encourage each other. The staff sat together in the lunchroom for breaks and lunchtime meals and enjoyed camaraderie with one another. There was laughing and an exchange of stories.

Active Participation

Mr. Anderson had prepared staff with permission for participation in the study, which is consistent with a hierarchal culture. As I interviewed the staff, they were

welcoming and eagerly answered questions. They provided an abundance of feedback regarding their school. I observed their interactions with each other and their students throughout the day. They were friendly and engaged with everyone around them. One staff member exclaimed, “I love sharing about Adams Technology Center. It’s such a great place to work” (interview, 2019).

Strong Mission

The mission of Adams Technology Center was posted throughout the campus, the website, the student handbook, and other marketing and recruitment documents distributed from the school. Mr. Anderson referred to it during our interview as an integral part of the success of Adams during his tenure. Teachers were so familiar with it, they could recite when asked; however, students were not. This led me to believe that the mission is communicated strongly among the staff, but not with the students themselves. I witnessed one event in a classroom observation in which a teacher asked a student to recite the mission and offered a candy bar as a reward. The students quickly did searches on their phones trying to find it. While they were unable to recite it from memory, it was easily located through a google search of the school.

Communication

Through observations and interviews, I saw communication was a strength at Adams. Teachers said communication comes down from administrators to teacher leaders and is disseminated out. There is opportunity for communication to be returned in the same manner or more directly; the superintendent and other administrators welcomed input through formal and informal means. I witnessed one teacher stop the superintendent

during our campus tour to ask about a specific situation. Mr. Anderson provided a little detail and asked the teacher to stop by after school for more discussion. The teacher seemed to experience this exchange as a regular interaction. Their conversation was very informal, even in my presence, leading me to believe there was regular communication between the two men.

Leadership Activities: Rules

At Adams, findings pointed to a strong set of roles and rules, which supports a strong grid. The district provides policy and procedures for all staff. They have a student handbook listed online and everyone has a set of role expectations clearly defined. Rules were outlined in the student handbook. It was over 25 pages in length and listed rules and expectation for students based on school policies. It encompassed safety, attendance, student records, discipline, and refunds.

Harris (2015) noted "successful corporate school [administrators] express confidence in teachers and students" (p. 151). Mr. Anderson modeled this with his staff, as he asserted his "total confidence in [my] staff to teach and hold students accountable for learning" (interview, 2019). Mr. Anderson's trust in his staff was obvious as he asserted each teacher was "autonomous in their curriculum development" and the role of the administrative staff was to "provide the support and resources needed to assist teachers".

Decision Making: Centralized

Harris (2015) mentioned centralized decision-making is part of Douglas' typology of corporate culture. He explained that in this environment the leader takes input from the

larger group seeking consensus, but ultimately the final decision belongs to the leader. This was practiced at Adams. Mr. Anderson had his division-level administrators work with instructional staff and report back. They had administrator meetings that discussed the input and then Mr. Anderson would make the final decision. He shared that gaining the staff's input provided value that went beyond his limited ability to know everything happening at the lowest level of daily tasks, but he had the "eagle's eye view" of knowing the boundaries under which they were required to work. He was ultimately responsible to his school board, his community, and the Oklahoma Department of Career and Technology Education. He noted he "had to have the last word" (interview, 2019).

Teacher-Student Relationships

Strong relationships were obvious at Adams. I observed a very cohesive teacher group that ate together at their mid-morning/afternoon break and during lunch. They laughed and shared stories of each other's families. They told stories about funny situations in class. Their table sat in the middle of a common area used for eating, relaxing, and watching television. The students enjoyed their time getting a respite from class and didn't appear to mind that their teachers were just a few feet away. I observed one teacher walk over and begin talking to a student. They laughed at something that was said and then I heard the teacher say, "See you in five and don't be late!" before walking out in the hallway towards the classrooms. The student smiled and waited another couple of minutes before hurriedly following behind.

Student Support Services

Having a team mindset, strong relationships, and people-focused behaviors, it was not surprising to see Adams Technology Center provided several services that supported student success. They provided services for counseling, financial assistance, academic assistance, employment support, and competitive student groups that showcased their skills and abilities. There was a strong emphasis on student success. This was evident through the services, but also through student feedback. One student said, "my teacher helps me with my skills after school and during lunch" (interview, 2019). Another student mentioned getting academic help that increased her grade at Adams and her high school.

Baker Technology Center: Corporate

Baker Technology Center had a corporate culture, which could be demonstrated through staff behaviors, leadership styles, and staff/student relationships. These cultural manifestations are presented in the following sections.

Manifestations of Corporate Culture at Baker Technology Center

Harris' Grid and Group Assessment Tool (2015) was given to teachers and staff at Baker Technology Center and a cultural preference for a hierarchal or corporate environment with a strong grid and strong group. This was also demonstrated through my observations of teachers, staff, and students. Roles and responsibilities were clearly defined through expectations and documents, such as the student handbook. I also observed some behaviors that fall more in line with a bureaucratic culture; however, as

demonstrated in Figure 3 below, the assessment tool indicated Baker leaned toward corporate culture.

Figure 3

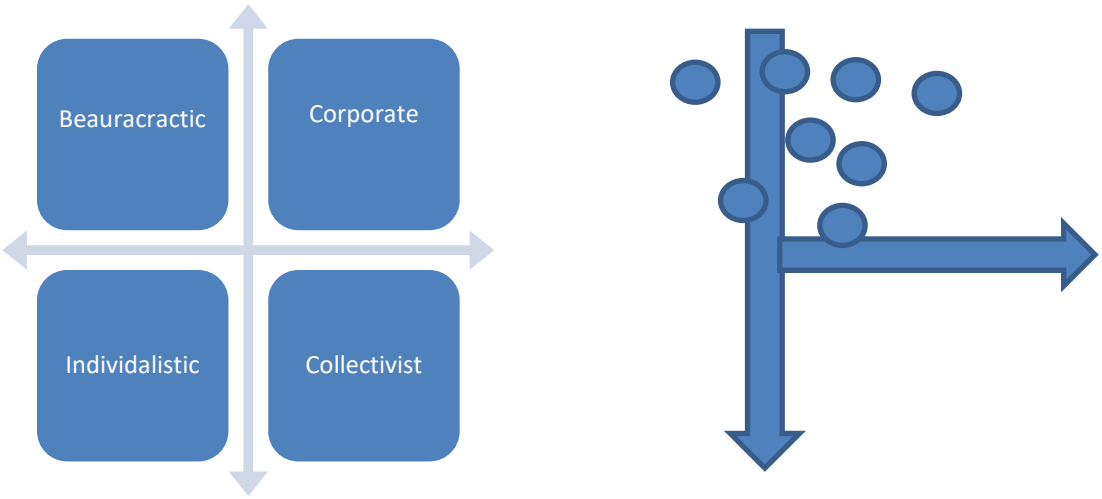


Figure 5.2. On the left, the grid and group matrix is displayed. On the right, individual grid and group assessment scores are plotted on the matrix, which shows that Baker Technology Center participants perceive Baker to have a corporate culture.

Selective Participation

Teachers, staff and administration were polite and did participate with the study, but they were more reluctant to share anything that wasn't perceived as a positive for the district. Even though they were given permission to participate, there was a hesitancy when answering some of the questions perceived to be more 'negative', such as, "what do you not like about Baker Technology Center?" or "why do you think students do not stay at the technology center?" For example, one teacher stopped to pause and followed it with, "I want to be sure I say this correctly" and "this is confidential, right?" (interviews, 2019).

Any question that allowed teachers and staff to describe the positive aspects of Baker Technology Center were met with enthusiasm and shared freely. Some of the responses led me to believe there was a fear of repercussions if negative information was shared. It also seemed there was a reluctance to share information with someone who was not only outside of their district, but also worked for another technology center.

Split Leadership

The superintendent, Mr. Benson, was polite and discussed his perceptions of Baker Technology Center. He was a self-proclaimed "old school" leader who "held his people accountable," but insisted he also provided an "open door policy" for all of his staff. However, this assertion was not supported as I observed a staff member come in to speak to Mr. Benson but had to make an appointment with the administrative assistant to block time in his schedule. The assistant superintendent, Mr. O'Grady was also a tall man who had a more unassuming, gentler nature. He was loved by his staff. I observed his interactions with staff as more easy-going and informal. The teachers and staff were more at ease around him. One teacher stated, "I love working for Mr. O'Grady. He always takes the time to listen to us" (interview, 2019).

During my observations, Mr. Benson did not venture from his office, often. Mr. O' Grady was often seen walking the halls, talking with teachers and students. The observations would suggest that Mr. Benson provides the boundaries (strong-grid) for the staff while Mr. O'Grady nurtures the relationships (strong-group) with the staff. To further support this suggestion, staff meetings were led by program administrators, but administrator meetings were directed by Mr. Benson.

Centralized Decision Making

Mr. Benson described his "open door policy" and welcomed input from others. There were many identified "lead instructional staff" who gathered in meetings with administrative staff to discuss and plan on various topics, but all decision making ended with Mr. Benson. Everyone interviewed agreed he was "in charge."

The assistant superintendent, Mr. O'Grady provided a "coaching" style of leadership, while Mr. Benson exhibited a "directive" style of leadership (Harris, 2015). This suggested either a new shift in the culture or possibly the perceived person of authority. One staff member explained more responsibility was delegated to Mr. O'Grady, but Mr. Benson had the final authority. She went on to say that Mr. O'Grady was set to take over as the superintendent one day.

Ambiguous Mission

The student handbook began with the mission, vision, and core values of Baker Technology Center but the focus was on the behavioral guidelines called the "4 Rs: Ready to Learn, Responsible, Respectful, and Ready to Work." The 4 Rs were listed in common areas, such as the cafeteria area, hallways, and classrooms. Teachers and students recited them when asked about the 4 Rs. It was clear that this was a part of every day life at Baker Technology Center. However, the mission states, "empowering individuals, employers, and communities to achieve success," but the 4 Rs are further defined to say, "Follow instructions" for each of the R's. This is contradictory to "empowering individuals." Therefore, the central message about the school, carried

through the words of staff and students, supported both the corporate and the bureaucratic typology.

Rules Focused

Rules were a strong focus at Baker. The student handbook was comprised of a variety of rules, processes, roles, and expectations. It was 34 pages in length with information that included the typical things one would expect to find in a student handbook: attendance policy, discipline expectations, financial aid, services available to students, but Baker included information on copyright infringement, student diversity, Constitution Day, and even voter registration. There was a strong focus on getting every rule in writing for students and staff. A set of rules were also posted in each classroom, further lending support for a strong-grid environment.

Communication

Communication was not considered a strength by some staff and students. For example, Joe reported that he had missed meetings and some deadlines due to "lack of good communication" (interview, 2019). Nancy commented, "you have to be proactive asking about information. It won't come looking for you" (interview, 2019). One student said, "if you miss class, you don't know what's going on" (interview, 2019), while another student expressed frustration at the lack of communication between Baker and her high school. She stated this caused her to get "in trouble big time" with her dad because an absence was not reported correctly (interview, 2019).

I observed strong communication efforts between the administration and the teachers though. There were regularly scheduled staff meetings, email communications,

and the “open door policy” of administration. There were few layers of authority, making it easier to communicate between the two groups.

Strong Relationships

One teacher commented, “we are a family at Baker” as she described the relationships with her coworkers. She was one of three different staff members who referred to each other as a “family.” The staff were very friendly and informal with each other and the students. Crystal referred to this as a strength for building relationships with her students and felt the informal atmosphere put students “at-ease.”

I observed strong relationships with staff members, as well. They ate lunch together and gathered at other opportunities to socialize. The staff and administrators organized a day of volunteer work at a charitable event. There were pictures showing several staff members pitching in to provide for needy families. This was one of many team activities in and outside of school.

Student Support Systems

Baker provided a diverse offering of services to students that supported student success. The services addressed academic skills, career exploration, financial assistance, and counseling. They developed individual plans of study for every high school student. The plan of study was a strong tool used in student retention/completion in a career program. This was mentioned by two students as part of their success at Baker. One teacher explained they sit down with each student and discuss the student’s future goals. They involve counselors, tutors, and other resources, as needed.

Summary

This chapter focused on two selected Oklahoma technology centers' culture through the lens of Douglas' (1982, 1986) grid and group typology. Analyzing data collected using Harris' (2015) Grid and Group Assessment Tool, Adams Technology Center and Baker Technology Center were both identified as a corporate school based on their responses leaning toward strong-grid and strong-group behaviors. There were commonalities in roles and rule expectations for both schools that supported their strong-grid environment. Additionally, both showed strong relationships among the staff; however, there was a difference in perceived positional power within Baker Technology Center.

Both technology center districts exhibited strong relationships between staff and students. The services provided to support student success were diverse and encouraged by teachers. Interestingly, Adams Technology Center showed strong relationship with students and teachers, but it did not provide the same level of individualized focus as the plans of study done by Baker's staff. Adams Technology Center had a higher rate of student retention/completion than Baker, but Baker had many of the same services and characteristics. The noticeable difference between Adams Technology Center and Baker was in their size and student population. Adams served a larger population of students that included a higher percentage of adult students. Administration at Baker was

interested to see how their retention rates would increase moving forward with their initiatives of individualized plans of study and the 4 R's.

Research questions for this study are answered in chapter VI along with further recommendations based on the data presented and analyzed in chapters IV and V, respectively.

CHAPTER VI

FINDINGS, CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

Chapter VI will answer the research questions of this study and highlight implications to research, theory, and practice. Recommendations for future research are offered as well as my comments and reflections.

Purpose

The purpose of this qualitative case study is to explore, through the lens of Grid and Group Theory, the interrelationship of the culture of select Oklahoma technology centers and the role of culture in providing quality supports that increase student retention rates.

Research Questions

The following research questions were used in two selected Oklahoma technology centers**:**

1. How are students supported in these settings?
2. What are the teachers' and students' perception of the interrelationship in the culture of the technology centers and student retention rates?
3. Through the lens of Douglas' Grid and Group Theory, what factors of school culture influence successful student completion?
4. Outside of Grid and Group Theory, what else is found in the data?

These research questions are answered based on the data presented in chapter IV and analyzed in chapter V.

Question 1: How are students supported in these settings?

Both Adams and Baker Technology Centers offered a diverse set of services to support student success. Adams and Baker provided specific services for help with academics, student leadership development through student organizations, and counseling. Baker differed by offering career planning through individual plans of study and career exploration prior to enrolling in a career program. Adams provided formal job placement services, while Baker had an informal approach that utilized teachers.

Each school was classified as corporate culture, providing strong boundaries and strong relationships. They focused on performing as a "team" or a "family." They worked together toward a common goal of student achievement. Barbara affirmed the notion of "family" as she described her experience at Adams over 20 years as "parenting students" and "providing support and encouragement until they graduate" (teacher interview, 2019). Joe, with only two years at Baker, claimed he saw the teachers and students as a "team." He observed each role within the district was "a different player on the team" and each worked together to "help the overall team win" (teacher interview, 2019). Teachers identified different ways they contributed to student success through advising students with employment, career plans, academic achievement, and career program skill development. Susie reported her support of students included spending time with a student before and after class to work on skill development, while Bill indicated he supported students through guidance in his occupational field. He explained, "students

needed someone who has already been there to show them the way" (teacher interview, 2019).

Administrators at Baker Technology Center required teachers to work with students individually through their plans of study which supported each student's career and academic plan. For example, Baker's teachers met regularly to review and discuss the plans of study. They were able to provide guidance and suggestions on courses and career options. This guidance helped students focus on necessary classes and academics to reach their long-term goals, and for accountability, the teachers provided copies of the plans to the students and administrators.

Adams did not provide the same plans of study, but administrators supported teachers in mentoring students for successful completion and placement in employment. Adam's administrator team provided time and professional development on mentoring students. Additional training was provided with national programs that focused on student achievement through relationships, expectations, and guidance. Mr. Anderson, Adams' superintendent, emphasized the importance of providing professional development to foster growth in teaching and develop skills to mentor students. He expressed this development was a key factor in helping students graduate and find employment.

Question 2: What are the teachers' and students' perception of the interrelationship in the culture of the technology centers and student retention rates?

Teachers commented on the culture of the school and student retention. For example, Crystal, one instructor from Baker expressed culture was a part of students' success. She explained that the caring staff and academic resources, along with career

exploration provided a "culture to learn and succeed" (teacher interview, 2019). This was re-emphasized from multiple teachers at both technology centers. Every teacher interviewed stated he/she provided some type of individual assistance to students outside of designated class time. Larry, a teacher from Adams, attributed his students' success to the time he spent with one-on-one instruction and the "hands-on learning." Similarly, one student, Terry, attributed his success to the caring teachers and staff at Adams. He insisted he would not have completed the program if he had not had the additional encouragement from the people of Adams.

A culture of strong-grid and strong-group was emphasized. I saw positive, engaged staff and students inside and outside the classroom. Teachers sat in the same common area during breaks. They chatted with each other and the students. I saw administrators join in, re-emphasizing the strong relationships at the schools.

The environment appeared to be a lively place. The rules were enforced through verbal warnings, written statements from the handbook and posted to classroom walls. Students were observed actively engaged in learning during class and well-behaved during breaks. Even though each school was identified as hierarchal/corporate culture, they expressed their common beliefs and values somewhat differently in their handling of everyday rules and expectations. Further, one student at Baker expressed her acceptance of the rules as necessary to provide a "safe and fun place to learn," while a student from Adams said, "rules at school are to help us be successful in the workplace" (student interviews, 2019).

Question 3: Through the lens of Douglas' Grid and Group Theory, what factors of school culture influence successful student completion?

Using Douglas's (1982, 1986) grid and group typology to classify the cultures of Adams and Baker Technology Centers brought to light a strong-grid and strong-group for each center. Each center provided structures and practices, such as individualized support from teachers, clear expectations, and student organizations, that supported students' advancement in their programs. Considering these services and the centers' retention rates suggested that having a strong boundary of rules and role expectations, combined with strong relationships between teachers and students, provided a student-centered environment. Both schools had a common goal; each school provided services that were identified to help students be successful and stay in school. Adams had formalized programs that focused on student academics, while Baker's approach was focused on individual career goals. Baker also offered services through their academic center, but they also had individualized plans that were focused on career goals, along with academic course planning to reach those goals.

Adams Technology Center focused on clear role expectations for students and staff. Their handbook began with the top 10 expectations for success at Adams. These expectations come from a national program aimed at student success. The role expectations from the handbook outlined what was expected of a student. They specifically mentioned behaviors that foster success by being on time, prepared to work, and having strong interrelationship skills for the classroom and workplace.

The staff roles followed national program expectations through 10 key practices. These practices included having high expectations for students, a culture of continuous

improvement, actively engaged students, providing extra help, and teachers working together (Adams student handbook, 2020, p. 2). Having a corporate focus of working together created shared responsibility for student success among a variety of staff members. Teachers worked with the academic team, the counseling, and the employment advisor to identify and address student challenges. This approach, as stated by one employee, did not bring every student success, but it "helped more students than it lost" (teacher interview, 2019).

Additionally, Adams measured its success as a district on key performances that focus on student success through enrollment, certificate completion, placement, and student satisfaction (Adams student handbook, 2020).

Baker Technology Center also focused on clear role expectations of students through their handbook; however, they did not utilize the same national program that was aimed at student success. Baker created an easy-to-remember set of expectations for success they referred to as the 4 R's. Students were expected to be **r**eady to learn, **r**esponsible, **r**espectful, and **r**eady to work. These expectations were further defined to behaviors that were specific and intended to foster success in the classroom. Baker clearly outlined roles of student services staff in their student handbook, providing clear direction for students needing additional supports to reach their goals.

Adams and Baker Technology Center had clearly outlined rules in their student handbooks to foster student success. The strong-grid reinforced boundaries for staff and students to keep students from straying into behaviors that were considered counterproductive to student success. Mr. Benson emphasized that "rules made rulers" and expressed strong boundaries "kept kids on the right path" (observation, 2019). Mr.

Anderson stated that “rules were intended to provide clear expectations for student behavior, thus helping them stay in school and graduate” (observation, 2019).

Another distinct difference between Adams and Baker was the enrollment focus that Adams utilized. Mr. Anderson espoused his success for high student retention was their effort to get “the right student in the right program for the right reasons” (observation, 2019). Utilizing a recruitment and enrollment consultant, Adams had specific strategies of targeting students who would be intrinsically motivated to succeed. Many educators believed these students would have what it takes to persist through to completion of a program.

Baker’s enrollment approach was different. They provided career exploration at an earlier stage in a student’s school experience and followed up with each student’s individual plan. This approach was considered to focus on intrinsically motivated students, as well, but through different strategies. Baker focused on individual plans of long-term goals and adult guidance as an integral component for fostering student success.

Question 4: Outside of Grid and Group Theory, what else is found in the data?

The data presented other realities outside of the grid and group theory that supported successful student completion. Multiple factors were found to influence a student’s desire or ability to successfully complete a career program. Adams Technology Center and Baker Technology Center were both classified as corporate culture and had similar support services to students. Yet, Baker Technology Center had a lower retention and completion rate. Adams Technology Center was in a rural community with many blue-collar jobs available while Baker was only a short distance from other career

options, such as college and other technology centers. This may contribute to the makeup of the student population at each school. Adams had a larger percentage of adult students attending their programs, while Baker had a larger percentage of high school students attending their programs. Adams had a large focus on contributing to the work force and Baker had a focus on preparing high school students for post-high school options. Baker also had fewer programs that allowed enrollment of adult students.

Another area that arose regarding retention of students was life circumstances of students. Students noted barriers in their personal lives that were not impacted by the school's staff. For example, Darel mentioned a friend who dropped the same program because he had to take a sibling home each day after school and it conflicted with attending Baker Technology Center.

Table 3 provides some similarities and differences of each technology center, in spite of having been classified as corporate culture with a strong-grid and strong-group.

Table 6.1

Comparison of How Culture Supported Students at Adams and Baker Technology Center

Student Supports	Adams Technology Center (Corporate)	Baker Technology Center (Corporate)
Tutoring Services	Formal Services	Formal
Counseling Services	Academic and Career Focused	Academic and Career Focused
Career Exploration	Not Offered	Offered to HS Students
Plan of Study	Not Offered	Offered to HS

			Students
Job Placement Through		Formal Services	Informal Teachers
Student Organizations		Required Participation	Voluntary Participation
Student Handbook Focused		Rules Focused	Service
Strong-Grid		Rules and Roles Clear	Rules Clear
Strong-Group	than	Strong Relationships Between Staff & Students	Rules Stronger Relationships

Conclusions

Findings from the study showed there were some similarities and differences between Adams and Baker Technology Centers in how they support student achievement. Douglas's (1982, 1986) typology was applied to both schools and a corporate or hierarchal culture was shown to be dominant as they fell into the strong-grid, strong-group quadrant. The finding that each school fell into the same cultural context supported the findings from interviews that showed there were few differences in how their staff members viewed their boundaries and relationships. They also proved to have few differences when it came to student support services offered; however, they approached their focus and delivery differently. These differences showed up in the distinction of roles and expectations for each school. The findings suggest there is a pattern at Adams that is supportive of distinct roles for students and staff. The findings also suggest a focus on student outcomes towards employment, while Baker has highlighted the rules and supports for students to explore careers and post-high school options.

The study suggested a mutual interrelationship of culture and success. The success of students is related to support services to students in a culture that provides clearly defined roles and rules (strong-grid) and strong familial and collaborative relationships (strong-group). The pattern of student success was most evident in situations with strong teacher-student relationships. Students and teachers alike mentioned the importance of community, which is associated with corporate cultures. Other patterns that emerged included clear expectations of students and staff, clear boundaries within the school, and strong administrator support.

The study also brought to light some areas that are outside of cultural contexts that may affect student retention and completion. Other factors that emerged as part of the challenges students face in completing a program include family responsibilities, transportation, changing career interests. These factors are a part of a student's life outside of attending the technology center and are beyond the scope of this study, however, these factors merit further study.

Implications

The outcomes of this study have implications for research, theory, and practice. These implications are summarized in the following sections.

Implications for Research

There has been a great amount of research on school improvement strategies, student success, and school culture (Campo, 1993; Gentry et al., 2007; Gruenert, 2005; Kohm & Nance, 2009). Research has shown transforming school culture has an impact on student achievement and teacher efficacy (Gentry et al., 2007; Muhammad, 2009).

Tableman and Herron (2004) expressed how school culture plays an integral role in teaching and learning.

While the findings of this study cannot be generalized broadly, they support other research on school culture and student achievement (Gentry et al., 2007; Kohm & Nance, 2009; Muhammad, 2009). Student retention and completion rates have been a strong focus for Oklahoma Technology Centers; however, there has been little research in this area. This study expanded the research as it focused on two Oklahoma technology centers, which were classified by Douglas's (1982, 1986) grid and group typology. Both schools were classified as having a corporate culture. The data from this study supported improved student retention and completion within a strong-grid and strong-group culture, which suggests an interrelationship between student achievement and a school's culture. This supported findings from similar studies that focused on the interrelationship of student achievement and school culture (Gruenert, 2005; Macneil et al., 2009) and further supported research from Lee and Burkam (2003) on the role of schools in the decisions of students who drop out.

Applying organizational cultural theory espoused by Douglas (1982, 1986) and Harris (2015), the technology center rules (grid) and relationships (group) were studied to discover how each may or may not play a role in supporting student completion at each of the technology centers. Adams and Baker Technology Centers approached services to students with similar offerings. The findings showed both schools had some success with student achievement. The students at both schools had access to a variety of services that focused on student academic success, financial needs, and post completion employment. This study found that all students had access to services; however, it was not the only

factor to play a role in the student's desire to persist to the end of a career program. This study added to the research by highlighting student experiences within two corporate cultures as a contributor to a student's success.

Implications for Theory

Douglas's cultural theory (1982, 1986) was used to frame how students achieved successful completion through services supporting their cultural preferences. This study brought to light how a hierarchal culture created an atmosphere for student learning and teacher efficacy. The strong grid expressed through expected roles provided a framework for which the strong group of staff and administrators were able to interact and support student learning. The "team" environment provided the foundation for which students could learn. This study contributed to the theory by reinforcing the application of Douglas's typology matrix to classify culture, regardless of the type of organization. This study showed it can be applied in a diverse setting such as vocational training and thus, may be helpful in finding similarities and differences in services that lead to successful student retention.

This study could provide additional data for other theories seeking to explore student achievement. One theory that could be considered is Walberg's (1978) Theory of Educational Productivity. It focuses on six factors that are essential to student achievement and productivity. These factors include students' ability and motivation, the quality and quantity of instruction, class social environment, and home environment. Walberg's (1978) theory considers family interaction with school to be one of the key

components to increasing student achievement. This study also touched on these areas through a different lens.

Implications for Practice

As mentioned above, findings cannot be generalized to the larger technology center population. Readers who wish to transfer the results to a different context are responsible for making the judgment of how sensible the transfer is to their educational environments. However, the findings of this study contributed potential implications into three areas: (1) technology center leaders, (2) state educational agencies, and (3) university faculty.

Technology Center Leaders

Technology center leaders seeking to increase retention and completion rates may gain insight from this study. Using the data suggested by this study, technology center leaders may focus on culture and other data to provide relevant services, hierarchal role definition, and increased student and staff relationships. This insight will provide a guide to assist in improving retention rates at each of the technology centers.

State Educational Agencies

The state agencies working with students in technology centers can benefit from a deeper understanding of guiding technology center districts in areas of low retention and completion rates. This study can provide insight to guide technology center leaders to improve culture, thus improving student achievement.

University Faculty

The findings of this study can benefit future career and technology education teachers and administrators. University faculty will benefit as they teach future technology center teachers and administrators, but some of the data found may be transferred to other educators and administrators in any educational setting.

Recommendations for Future Research

Through this study, I realized there were factors, in addition to organizational culture, that needed to be considered. This study was limited to two Oklahoma technology center districts. My recommendations for future research are described below.

One, the study needs to be expanded to technology centers that present different cultures and still show high retention rates. A study with differing cultures may more clearly demonstrate other factors that affect student retention and completion rates. Expanding this study to allow 29 technology center districts would provide greater data to examine similarities and differences.

Two, this study was focused on second year students in a career program. The students were selected by their teachers and then volunteered for the study. Having a study that began with first year students and followed them through to completion may provide more data that defines what students need or want to persist through a career program, thus providing greater information on factors that contribute to student success.

Three, this study focused on high school students. Adult students are part of the student body in nearly every technology center in the state, as well as skill centers that

are solely adult students. Adults may have different needs for finishing a program. The Oklahoma Department of Career and Technology Education does have a breakdown of retention rates of high school and adult students. Technology Center districts could benefit from data that was collected from adult students, as well as high school students. This could also impact institutions of higher education or other post-high school options.

Four, this study focused on smaller schools with fewer career programs. Smaller technology centers have unique challenges that larger technology center districts do not face. It would be beneficial to expand the study to include larger technology center districts with a greater number of programs and increased resources to determine how it may or may not affect the data.

Comments and Reflection

As our country faces a gap in jobs available and skilled employees to fill empty positions, schools that offer vocational training are racing to turn out a skilled labor force. We find ourselves in a time of school choice when it comes to occupational training. It is critical in the effort to meet the demand of industry, to understand how to retain and graduate students from occupational programs, thus creating a larger, skilled employee pool from which to hire.

I have been employed within the Oklahoma Career Tech system for more than 15 years. I have been in different roles that interacted with technology center students. I often wondered why some students were more successful in completing a program, while others were not. Based on my experiences, I believed it was based completely on factors in the student's life and internal drive to succeed. However, through this journey I was

exposed to other factors that may influence the student's ability to complete a program of study.

My experience was based on only working in one technology center that has experienced tremendous increase in resources, financial stability, and community support. Through interviewing and observing how other technology centers provide services to students and staff, I have been able to change my perspective and see the diverse challenges other technology centers face, as well as the students they serve. Having the opportunity to visit and explore how other technology centers support student success allowed me to speak to other technology center professionals and hear their strengths and challenges. It also helped me realize not all technology centers experience the same opportunities.

One huge impact this study had for me personally was that it allowed me to consider my role more deeply in the culture of the school and how it affects students and staff. My current position allows me to play a larger role in supporting teacher-student relationships and implement strategies that will impact student achievement. I will continue to look at factors that affect a student's ability to complete a program and borrow from other technology centers' best practices to affect change within my own district.

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APPENDICES

APPENDIX A

Letter of Permission for Access

Mr. Anderson
Adams Technology Center
Adams, OK

November 12, 2018

Dear Mr. Anderson

In fulfillment of the research component required of student in Oklahoma State University's Doctor of Education, I am seeking your permission to gain access to the staff of Southern Oklahoma Technology Center.

I would like to conduct research this spring 2019 that will involve interviewing instructional leaders, instructors, and adult students. The primary method of data collection will be audiotaped interviews, supplemented with direct observation, documentation, archival records, and physical artifacts. While high school age students may be present during observations during the school day, they will not be interview subjects. A copy of my Institutional Review Board application packet is attached to lend further insight. If you desire, I can provide a copy of the entire research proposal.

Upon receiving approval of the Institutional Review Board, the study will commence in the spring of 2018. Data collection will extend throughout the spring semester. Any necessary follow-up interviews will be conducted to ensure credibility; member checks of the transcribed interviews will ensure accurate representation of the subjects' words and ideas. Data gathering and analysis should be complete by May 2019.

If you are willing to allow me to proceed with this research, please indicate so with your signature below. If you require additional resources, please contact me for further discussion.

Email address: wendy.perry@mntc.edu Cell phone: [cell phone number]
Sincerely,

Wendy Perry

_____
Mr. Anderson, Superintendent

Letter of Permission for Access

Mr. Benson
Superintendent
Baker Technology Center
Baker, OK

November 12, 2018

Dear Mr. Benson:

In fulfillment of the research component required of student in Oklahoma State University's Doctor of Education, I am seeking your permission to gain access to the staff of Southern Oklahoma Technology Center.

I would like to conduct research this spring 2019 that will involve interviewing instructional leaders, instructors, and adult students. The primary method of data collection will be audiotaped interviews, supplemented with direct observation, documentation, archival records, and physical artifacts. While high school age students may be present during observations during the school day, they will not be interview subjects. A copy of my Institutional Review Board application packet is attached to lend further insight. If you desire, I can provide a copy of the entire research proposal.

Upon receiving approval of the Institutional Review Board, the study will commence in the spring of 2019. Data collection will extend throughout the spring semester. Any necessary follow-up interviews will be conducted to ensure credibility; member checks of the transcribed interviews will ensure accurate representation of the subjects' words and ideas. Data gathering and analysis should be complete by May 2019.

If you are willing to allow me to proceed with this research, please indicate so with your signature below. If you require additional resources, please contact me for further discussion.
Email address: wendy.perry@mntc.edu Cell phone: [cell phone number]
Sincerely,

Wendy Perry

_____
Mr. Benson, Superintendent

APPENDIX B

Letter of Introduction

(Letter to be sent via email to the staff at each technology center)

To Technology Center Staff:

My name is Wendy Perry. I am a doctoral student at Oklahoma State University, pursuing a degree in School Administration. I am conducting a research study as part of my requirements of my degree, and your school has been selected for my study. I have been in education for more than twenty-five years. I am currently working in another technology center as an administrator of health occupations.

I am conducting a case study to better understand the role of technology center culture in supporting students for the purpose of retention in Oklahoma technology centers. The purpose of my study is to describe how technology center culture supports students' success and increases student retention at two selected Oklahoma technology centers.

I have been granted permission by [Superintendent] to work with staff, administration, and adult students, as part of my research. I will be present at the school throughout the spring semester to attend some school meetings and functions. In the following weeks, I will be seeking assistance of instructors to agree to 30 to 45-minute interview. The data collected from the interviews will be kept strictly confidential. If you decide to participate in this research, your identity and responses will not be revealed to administration, or even in my dissertation. The administration will have no knowledge of who has agreed to be interviewed.

If you have any further questions about this study, please contact me through this email or by calling [cell phone number].

Sincerely,

Wendy Perry

APPENDIX C

Script for Soliciting Volunteers for Participation

(Letter to be sent via email)

In fulfillment of the research component required of students in Oklahoma State University's Doctor of Education, I have chosen to conduct a case study on various aspects of this technology center. [Superintendent] has agreed to allow students and staff members of this school to participate in the study. I am now seeking volunteers willing to participate in a 30-45-minute interview. I will record the interview on my iPhone so that I may later transcribe the interview word-for-word to more effectively analyze the content.

Your decision to participate is entirely voluntary. If at any time you feel the need to withdraw from the study, you are welcome to do so. This study is in no way connected to your performance or evaluation in this school. Data gathered from this study will be used to inform ways in which school culture helps support the student complete in their chosen career program.

Should you decide to participate, your identity will be carefully and respectfully guarded. All findings and subsequent published material referencing this study will be masked to maintain the confidentiality of the school site and the specific participants. As student participants, your decision to participate will be withheld from your teachers. He/she will not be given access to either your decision to participate or your responses. To ensure accurate representation of participants' words and ideas, a scripted copy of your interview will be provided prior to the analysis of data. Corrections, additions, or deletions will be made as noted by the participants.

If you are open to the possibility of an interview, please complete the requested demographic information form attached to this email. You can either fill out the document on the computer and email back to me or print a hard copy and I will come pick it up from you. I will make every effort to comply with your schedule and preferences for date and time. I will be contacting those of you who indicate an interest in participating.

Thank you,

Wendy Perry

APPENDIX D

Staff Demographic Information

Name:_____

Cell Phone:_____ School Phone:_____

Email Address:_____

Preferred method of contact: (Circle one) Cell Phone School Phone Email

Gender: (Circle one) Male Female Age: (optional)_____

Career Program: _____

Years at technology center:_____

APPENDIX E

Informed Consent

Student Retention in Selected Oklahoma Career and Technology Centers: A Case Study

Investigator: Wendy Perry, Doctoral Candidate, Oklahoma State University

Purpose:

You are being invited to participate in a study on the role technology center culture plays in student retention. The purpose of this study is to describe how students' preference in technology center culture support and influence student retention at selected Oklahoma technology centers. Students will be asked to share their insights regarding technology center culture and student retention.

Procedures:

As a participant in this study, you have been purposefully selected to participate in an interview, where you will be asked questions regarding general information about yourself, technology center culture, and students completing their technology center career program. The interview will take approximately 30-45 minutes and will be conducted in the location of your choice. I will record the interview on my iPhone so I can later transcribe the interview. I will provide a copy of the transcribed interview to you so that you can verify the accuracy and content of the interview.

Risks of Participation:

There are no known risks associated with this project which are greater than those ordinarily encountered in daily life.

Benefits:

There are no direct benefits to you. The results of this study will inform university programs, teachers, administrators, and the Oklahoma Department of Career and Technology Education officials of the role technology center culture has in retaining students.

Confidentiality:

The records and results of this study will be kept private and confidential. Any written results will discuss group findings and will not include information that will identify you. Pseudonyms will be assigned to all participants in the study. Consent forms will be kept separate from all other documents. Research records will be stored on a password protected computer in a locked office and only researchers and individuals responsible for research oversight will have access to the records. It is possible that the consent process and data collection will be observed by research oversight staff responsible for safeguarding the rights and wellbeing of people who participate in research. Interviews will be recorded on my iPhone, and data files will be transferred to a flash drive that will be stored in a locked filing cabinet. Immediately following the interview, the researcher

to ensure maximum confidentiality will complete all transcriptions. As soon as transcription is complete, the data files will be permanently removed from my iPhone. Data will be destroyed three years after the study has been completed.

Compensation:

No compensation will be provided for participating in research.

Contacts:

If you have any questions about this study, please contact:

Wendy Perry
Ed.D. Candidate
1165 NW 17th Street
Newcastle, OK 73065
405.250.4974
perrywl@okstate.edu

or

Dr. Ed Harris
Oklahoma State University
College of Education
308 Willard Hall
Stillwater, OK 74078
405.744.7932
ed.harris@okstate.edu

If you have questions about your rights as a research volunteer, you may contact:

Sheila Kennison
219 Cordell North
Stillwater, OK 74078
405.744.3377
irb@okstate.edu

Participants Rights:

Your participation in this study is voluntary, and you may choose to discontinue participation at any time without risk or penalty.

Signatures:

I have read and fully understand the consent form. I sign it freely and voluntarily. A copy of this form has been given to me.

_____ _____

Signature of Participant Date

_____ _____

Signature of Researcher Date

APPENDIX F

Interview Protocol

Interview Questions for Students

1) What made you come to the technology center?
2) Tell me what you like about the technology center.
3) Tell me what you do not like about the technology center.
4) Tell me how the technology center helps students who may not be doing well.
5) Tell me how the technology center might help students be more successful.
6) How would you describe the culture of the technology center?
7) How is the technology center different from other schools?
8) How is the technology center like other schools?

Interview Questions for Technology Center Administrators & Staff

1) What made you choose to come to the technology center?
2) Tell me what you like about the technology center.
3) Tell me what you do not like about the technology center.
4) How is information communicated to staff in this technology center?
5) How is information communicated to students in this technology center?
6) How would you describe the culture of the technology center?
7) How does the technology center help students be successful?
8) In your opinion, why do students come to the technology center?
9) In your opinion, why do students leave the technology center?

Oklahoma State University Institutional Review Board

Date:	06/24/2019
Application Number:	ED-19-74
Proposal Title:	Student Retention in Selected Oklahoma Career and Technology Centers: A Case Study
Principal Investigator:	Wendy Perry
Co-Investigator(s):	
Faculty Adviser:	Ed Harris
Project Coordinator:	
Research Assistant(s):	
Processed as:	Exempt
Exempt Category:	

Status Recommended by Reviewer(s): Approved

The IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in 45CFR46.

This study meets criteria in the Revised Common Rule, as well as, one or more of the circumstances for which continuing review is not required. As Principal Investigator of this research, you will be required to submit a status report to the IRB triennially.

The final versions of any recruitment, consent and assent documents bearing the IRB approval stamp are available for download from IRBManager. These are the versions that must be used during the study.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be approved by the IRB. Protocol modifications requiring approval may include changes to the title, PI, adviser, other research personnel, funding status or sponsor, subject population composition or size, recruitment, inclusion/exclusion criteria, research site, research procedures and consent/assent process or forms.
2. Submit a request for continuation if the study extends beyond the approval period. This continuation must receive IRB review and approval before the research can continue.
3. Report any unanticipated and/or adverse events to the IRB Office promptly.
4. Notify the IRB office when your research project is complete or when you are no longer affiliated with Oklahoma State University.

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact the IRB Office at 405-744-3377 or irb@okstate.edu.

Sincerely,

Oklahoma State University IRB

VITA

Wendy Perry

Candidate for the Degree of

Doctor of Education

Dissertation: STUDENT RETENTION IN SELECTED OKLAHOMA CAREER AND TECHNOLOGY CENTERS: A CASE STUDY

Major Field: School Administration

Biographical:

Education:

Completed the requirements for the Doctor of Education in School Administration at Oklahoma State University, Stillwater, Oklahoma in December, 2020.

Completed the requirements for the Master of Science in Guidance and Counseling at University of Central Oklahoma, Edmond, Oklahoma, 1996.

Completed the requirements for the Bachelor of Science in Elementary Education at East Central University, Ada, Oklahoma, 1990.

Experience: Elementary teacher, counselor, director

Professional Memberships: Association of Career and Technical Education, Oklahoma Association of Career and Technical Education, National Council of Local Administrators, Oklahoma Council of Local Administrators